

Publications Committee

BULLETIN
OF
THE UNIVERSITY OF TEXAS

NO. 251.

FOUR TIMES A MONTH

GENERAL SERIES 27

OCTOBER 15, 1912

RURAL SCHOOL EDUCATION

Lectures Delivered and Outlines of Round Tables Held
During Rural School Education Week Under
the Auspices of The University
Summer Schools
July 15-19, 1912.



PUBLISHED BY THE UNIVERSITY OF TEXAS

AUSTIN, TEXAS

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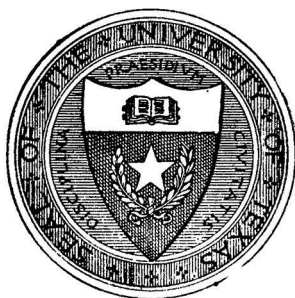
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INTRODUCTION

During the week beginning July 15, 1912, there was conducted, under the auspices of the University Summer Schools, a five-day series of lectures and round tables, all of which were devoted to the investigation and discussion of problems relating to rural schools. Among the lecturers and leaders of round tables were County Superintendent O. J. Kern of Winnebago county, Illinois; Mr. C. H. Lane, assistant in agricultural education, United States Department of Agriculture, Washington, D. C.; State Superintendent F. M. Bralley of Austin, Texas; President R. B. Cousins of the West Texas State Normal College, Canyon, Texas; Superintendent P. W. Horn of the Houston city schools; Superintendent S. M. N. Marrs of the Terrell city schools; Mr. C. H. Winkler, instructor in botany in the University of Texas, and Messrs. T. H. Shelby, E. V. White, E. A. Decherd and N. J. Clancy of the State Department of Education, Austin.

The papers brought together in this bulletin consist in some instances of complete lectures, and in other instances of abstracts or reports. They are published in order that county superintendents and others who were in attendance upon rural school education week last July, may have preserved in permanent form many of the excellent features of the exercises of that week. It is hoped, furthermore, that this bulletin will be read carefully by many other county superintendents, as well as by many other people interested in the progress of rural education in Texas.

The authorities of the University of Texas, believing that by far the greatest educational problem in our state is that of the rural school, have decided to make rural school education week a permanent feature of the summer session. Already plans for the exercises of this week in 1913 are in process of development. Superintendent Kern has been employed to deliver fifteen lectures, ten in the morning and five in the evening, the latter being illustrated with lantern slides. He will, furthermore, assist in round tables that will be conducted during the five afternoons.

Other experts will contribute their services, and it is believed that the work throughout the entire week will have great influence upon the rural school movement in Texas.

W. S. SUTTON,

Dean of the Summer Schools.

September 1, 1912.

REPORT OF LECTURES

DELIVERED BY

O. J. KERN, COUNTY SUPERINTENDENT OF SCHOOLS, WINNEBAGO
COUNTY, ILLINOIS

I. ILLUSTRATED LECTURES

It is impossible on the printed page to describe adequately the slides used by Mr. Kern in his four illustrated lectures during rural education week. His pictures need to be seen to be appreciated, and also to get a definite idea of his work in improving country school conditions in his own county. The picture on the screen speaks more effectively than does the word picture on the printed page. Mr. Kern has over 1000 lantern slides, many of them beautifully colored, to represent things done in country school improvement and country life in general during his fourteen years as superintendent of the Winnebago county, Illinois, schools. He selected the best of his 1000 for the four lectures, and gave his best effort in his explanation of the pictures as shown upon the screen.

The subjects of his four illustrated lectures were:

1. Outdoor Improvement of the Country School.
2. Indoor Improvement of the Country School and Play and Play Festivals.
3. Nature-Study Agriculture in the Country School.
4. Consolidation and the Country High School.

Mr. Kern used slides to show the beautifying of school grounds and the erection of new buildings, with pictures "Before" and "After," thus presenting more forcibly the educational progress in the physical improvement of the country school. Other pictures represented school-room sanitation and decoration, local school libraries and traveling libraries, etc. The series of slides on play, play festivals and playground apparatus for the country school was a revelation of the promise of rural recreation in the lives of country people.

The enrichment of the course of study, thus putting the coun-

try child into a more sympathetic relation with his environment, was shown in a series of fine slides on nature study, school gardens, corn and soil work, boys' and girls' club work, etc. Last, but not least, his lecture on consolidation showed the possibilities of a high school located in the country, with its opportunities for a larger social service. In these consolidated country schools was shown up-to-date laboratory equipment, where, under direction of trained teachers, agriculture, manual training and domestic science are being taught to country children. In short, the pictures were a revelation and an inspiration.

II. LECTURES WITHOUT THE STEREOPTICON

Space will not permit the printing of everything that Mr. Kern said during the week. Enough is here given to indicate the character of his message. As in the case of anyone who has a message, the speaker must be heard to get the full import and spirit of his work. In his lectures without the stereopticon were discussed these themes:

1. The Call of the Open Country.
2. The Three L's in the Country School.
3. Agricultural Education.
4. Some Social Problems of the Country School.
5. The County Superintendent's Opportunity.

Following are important extracts from the lectures:

No finer challenge is presented today than the challenge of the open country for leadership. Educated men and women are wanted on the farms, men who are willing to tackle and solve the problems of country life, persons with the 'fighting edge' to tackle the nearest and commonest problems of country life. It may be the problem of better roads, better selection of seed corn, tuberculosis in dairy cattle, soil conservation, better schools, better churches, better social privileges, etc. The country road calls for leadership in developing a country life civilization.

The country life movement has for its object the development of a civilization in the open country that will be just as satisfying as the best civilization of the cities, a civilization that shall set forth the best American ideals in the open country.

Evidently something must be wrong with country life. In the State of Illinois the 1910 census shows there are 50,000 fewer people living on the farms than there were ten years ago in forty-six of the richest agricultural counties in the corn belt. And this movement away from the soil comes at a time when the price of land is advancing and when the farmer is assured high prices for his produce. And yet the farmer finds country life satisfactory only on the financial side. And so the country home is dug up by the roots, and the farm's best crop—the boys and girls—is transplanted to a new environment. For the open fields and the running brook are substituted too often the cheap vaudeville and the moving picture film.

It is a menace to our national welfare to have the best people continually deserting the open country. The country is the "seed bed" of the cities. Every boy who belongs to a corn club knows that, if he sells the best ears this year and the best ears next year and the best ears the third year and so on, and keeps the scrub ears for breeding purposes, it will not be long before he will have no ears to sell, or at least no one will want to buy them. By analogy with reference to well bred people, Carver in his new book, *Principles of Rural Economics*, puts the case as follows: "If it should happen that the most vigorous, capable and enterprising youths should continually leave the country for the city, there to become sterilized, as is usually the case, through the pursuit of sensuality, vanity, or false ambition, only one result would be possible. The less vigorous, capable, and enterprising youths being left in the country, there to marry and bring up families, and the same process of selection going on generation after generation, the quality of the rural population would inevitably deteriorate. * * * So long as the rural population is improving, there is no danger of national decay or weakness, or a decline of civilization. It is therefore of great importance that the farms shall retain at least their fair share of the talent of the country. In order that young men and women of talent and capacity may be induced to remain on the farms, rural life must be made attractive to them. Farm life can not be made attractive to such men and women unless it offers opportunities for a more liberal

material income, for much agreeable social life, and for intellectual and aesthetic enjoyment."

The call of the open country is then for leadership to redirect all forms of institutional life in the country. To qualify for leadership in this great welfare movement, one must have at least three things, viz.: First, a wholesome sympathy for the life of the open country; second, an intellectual grasp that comes from the reading and study of the new literature of the open country; third, infinite patience and perseverance in leading people to do things to better conditions in the open country. Short measure in the first two need not necessarily prove fatal; but, certainly, full measure is demanded in the last, if ideas and ideals are to result in something more than talk and good feelings.

The problem of country life is the problem of more complete living, the enrichment of the life of the individual countryman. This enrichment and consequent appreciation of life in the open country must come as the result of education related to country life. It should be that kind of an education that will make life in the open country more satisfying. People can not be induced to remain on the farm by legislative enactment. But the right kind of ideals in the country home and in the country school, especially where the teacher is in sympathy with all that is richest and best in country life, will give the children finer ideals and in a generation we shall have a race of people who will choose to remain in the country. They will find pleasure and profit in doing so. It is said that a wholesome viewpoint of life gives a wholesome life, and, if we can change the viewpoint of the rising generation of boys and girls in the open country, we can lead them where we will. The person who has this immense power for good is the country school teacher.

In a material way the farmer is coming into his own. Let us all rejoice with the farmer in his prosperity. But it is now high time that the country school share in the general prosperity of the open country. And the country boys and girls are coming into their own, educationally, when the country school is improved along the following general lines:

1. Spiritualization through environment. By this is meant

the beautifying of school grounds and improvement of buildings; school sanitation and decoration, libraries, etc.; the organization of home and school associations to make the country schoolhouse more of a social center in the community life. As to the value of environment as an educational factor, the reader is urged to read Burbank's *The Training of the Human Plant*. If Burbank in his work with plants values the character of the environment in which the plant is placed, then also should the countryman emphasize the environment in which the human plant, the boy or girl, is educated. With the school, then, Arbor Day will mean something more than a program of recitations and songs about trees, flowers, and birds. If boys and girls are to acquire finer ideals of the beauty of country life, it must be through the medium of the country school, while the children are young. The physical improvement of the educational plant, inside and outside, is the fundamental thing in education for country life.

2. Enrichment of the course of study in the country school so that the children of the fields will be put into sympathetic relation with their own life, instead of being educated, as at present, for the life of the cities. The trend of modern education is that the school should reflect some of the principal elements of the civilization in which it is placed. Therefore the country school should teach some of the elements of agriculture, manual training, and domestic science. Agriculture is the world's oldest civilization and the higher institutions of agricultural education and research already have a body of organized educational material which if taught with as much skill as the so-called "culture" subjects will give culture and mental discipline. The problem is to organize this material in an elementary way for the 12,000,000 boys and girls in the country schools, 99 per cent of whom, it is safe to say, will never enter a college of agriculture.

Agriculture taught in the right way in the country school will result in a higher degree of industrial efficiency. This is desirable considering the high cost of living. About one-third of the people now live on the farms, and this one-third in production of foodstuffs must bear the burden of three-thirds of the population as consumers. And this burden is to be borne

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In a material way the farmer is coming into his own. Let us all rejoice with the farmer in his prosperity. But it is now high time that the country school share in the general prosperity of the open country. And the country boys and girls are coming into their own, educationally, when the country school is improved along the following general lines:

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Agriculture taught in the right way in the country school will result in a higher degree of industrial efficiency. This is desirable considering the high cost of living. About one-third of the people now live on the farms, and this one-third in production of foodstuffs must bear the burden of three-thirds of the population as consumers. And this burden is to be borne

at a time when the soil has been weakened in productive capacity. And if we are to maintain a permanent system of agriculture in this country, we must do it by scientific agricultural education in the country school, the great primary school of the American farmer. Farm demonstration work is all right with the adult; but it is not fundamental enough to be all-sufficient. Begin with the child in the right kind of country school. Train up a child in the way farming should be done, and, when he is old, he will not depart from it.

But the hundred-bushel-per-acre yield is not the only or the chief thing in agricultural education. True, we want better farming; but we need also better living. Not only do we want the hundred-bushel farmer, but we need the larger factor, the hundred-bushel countryman. There is a difference. The countryman does not exist simply as a machine to produce cheaper raw material for the people of the cities. Mr. DeWitt C. Wing, in a recent article in the *Breeder's Gazette*, says: "What our country needs to fear is a famine of vital, beautiful, personal lives, offered upon the altar of gain, dwarfed by a narrow, one-angled existence, atrophied by denaturalized vocations. What would happen to the man's real life who developed any speciality to the limits of its possibilities, is quite as important as to what would happen to his brother's life if he should abandon his specialty. Feeders, as well as the fed, have a particular business to transact during their short stay in this land. To feed the hungry is a blessed privilege which mutually opens the wells of the heart; but none of the exigencies of humanity can justify the emptiness of one man's personal life by the consequent fullness of another's stomach."

The hundred-bushel countryman, then, is as good a farmer as the hundred-bushel farmer. But the countryman is not a mere machine to mine the fertility of the soil, convert one hundred bushels of corn into pork and beef, lay up a bank account, and at fifty years leave the impoverished farm for the city. But he is a type of the American farmer who stays on the farm, and becomes a leader in the reconstruction of the institutional life of the open country.

3. The third general line of improvement of educational advantages for the open country is the consolidation of country

schools, thus making possible the high school located in the country, with its course of study flavored with country life and its interests.

Warren Wilson in his new book, *The Church of the Open Country*, has a chapter on *Schools for Country Life*. In this chapter he pays a fine tribute to the one-room schools of our nation. One marvels, he says, at the statesmanship that could map out this great country, educationally, on the scale of the short legs of the six-year-old child. For the country school-houses have been located at places based on the ability of the six-year-old to walk from home to the school in the morning and return at night. But the changing conditions of country life are lengthening, not physically, of course, the legs of the six-year-old. Better roads, telephones, trolley lines, automobiles, etc., are making it possible to go farther to a better school. Pioneer conditions have passed.

The great need in the country is a high school. It is unthinkable that we must continue to send country boys and girls to the cities to be educated away from the farms. The consolidated country high school becomes the social and intellectual center for the boys and girls at that age when their ideals of life are being formed. Shall these ideals be those of the city or those of the open country? The farmer must answer.

Of course the objection will come that the consolidated school will cost more. It should cost more, for it does better work. Its increased cost is justified upon the principle that the corn binder costs more than the old-fashioned corn knife. We never can have better country schools until more money is expended in a better way. *There is no other way.* And two hundred-dollar land, dollar wheat, ten-cent cattle give the farmers the financial ability to support better schools.

The following is a page from Mr. Kern's annual report for 1911, showing the comparative cost of consolidation in Winnebago county, Illinois, as compared with the village schools, schools of the city of Rockford, and twenty-four country schools of Winnebago county. The table is worthy of careful study, not only on the dollar side, but also from the standpoints of attendance, enrollment and high school opportunities.

Here is given the cost of the Seward and the Harlem con-

solidated schools as compared with other schools of the county. To some persons who do not stop to figure, consolidation means enormous taxes, and in their terror they see the sheriff coming down the road to seize their property and it is over the hill to the poorhouse for them.

TABLE SHOWING SEWARD AND HARLEM CONSOLIDATED SCHOOLS IN COMPARISON WITH OTHER SCHOOLS OF WINNEBAGO COUNTY, ILLINOIS.

District	Levy for 1911	Rate per \$100	Possible levy for school purposes, 1911	Possible levy for building purposes, 1911	Enrollment Dec., 1911	Boys over 14	Girls over 14	No. months school	No. years high school
2, South Beloit -----	1,800	2.78	\$ 999	\$ 999	69	2	1	9	0
3, South Beloit -----	8,000	2.10	5,170	5,170	195	10	8	9	0
9, Roscoe -----	2,500	1.46	2,548	2,548	76	5	9	9	3
13, Rockton -----	3,000	1.26	3,708	3,708	142	14	30	9	4
27, Durand -----	12,900	1.38	3,252	3,252	145	25	40	9	4
86, Pecatonica -----	4,500	.87	7,984	7,984	169	14	41	9	3
97, Winnebago -----	3,000	1.02	4,554	4,554	149	18	15	9	3
112, Cherry Valley -----	3,000	1.29	3,555	3,555	102	13	18	9	3
Rockford -----	350,215	1.90	280,493	280,493	7512	643	790	10	4
5, Country -----	350	.98	557	557	22	2	2	8	0
7, Country -----	500	1.93	400	400	7	1	0	9	0
8, Country -----	500	1.00	774	774	14	0	0	9	0
16, Country -----	400	1.05	587	587	17	3	2	8½	0
19, Country -----	400	1.00	620	620	34	2	6	8	0
20, Country -----	350	.99	545	545	13	2	2	8	0
24, Country -----	400	.91	677	677	13	0	0	8	0
32, Country -----	650	.98	1,063	1,063	39	3	2	9	0
33, Country -----	400	.96	645	645	10	0	0	8	0
34, Country -----	285	.99	440	440	7	0	0	7	0
37, Country -----	500	1.03	746	746	25	1	5	8	0
39, Country -----	450	.83	838	838	15	0	0	9	0
41, Country -----	700	.91	1,182	1,182	6	0	0	8	0
53, Country -----	400	.92	672	672	21	1	0	8	0
59, Country -----	365	.85	660	660	9	0	0	8	0
62, Country -----	675	1.14	909	909	14	0	1	9	0
65, Country -----	1,050	1.33	1,224	1,224	55	0	4	9	0
66, Country -----	2,000	1.10	2,808	2,808	73	3	4	9	0
78, Country -----	475	.91	806	806	17	0	0	8	0
104, Country -----	500	1.00	752	752	19	0	1	9	0
111, Country -----	500	.82	950	950	18	2	0	8½	0
118, Country -----	600	1.10	838	838	9	1	1	9	0
120, Country -----	400	.90	738	738	13	0	1	8	0
202, Country -----	650	1.90	777	777	19	1	1	9	0
121, Seward Consolidated --	2,600	.81	4,976	4,976	94	16	17	9	3
122, Harlem Consolidated --	4,500	.95	7,310	7,310	85	7	12	9	4

The Harlem consolidated school is costing more than the Seward consolidated because the board pay higher salaries for teachers and have equipped the building so that manual training, domestic science, and agriculture are taught. In above exhibit note how few pupils over 14 years are in the country schools. In comparing costs of consolidation remember that the Seward and Harlem consolidated districts are paying for new buildings, furnish nine months' school with three and four

years' high school. And yet the tax rate is lower than twenty-four country schools and the nine village schools and city of Rockford.

We now have the beginning of some fine literature of the open country. The quantity and quality of this will increase as the years come and go. There is no doubt about this. It treats of the fundamental and elemental in life. This is what makes it so fascinating and valuable. The country school teacher has an opportunity unexcelled to put the adults of his district in touch with this literature. Not all of it will be read by any one person in a single term of school. Our school libraries have been filled with books largely for children. It does seem that the time has come to put into the school library a book or two each year at least, that will especially help the adults in the country home. The contents of these books on country life may well afford discussion among farmers and their wives. A short list of the literature on country life is here given. Begin the formation of a country life bookshelf in your own library.

1. Bailey, *The Country Life Movement*. Macmillan Co.
2. Bailey, *The Outlook to Nature*. Macmillan Co.
3. Bailey, *The State and the Farmer*. Macmillan Co.
4. Bailey, *The Nature Study Idea*. Macmillan Co.
5. McKeever, *Farm Boys and Girls*. Macmillan Co.
6. Foght, *The American Rural School*. Macmillan Co.
7. Bailey, *The Training of Farmers*. Century Co.
8. Burbank, *The Training of the Human Plant*. Century Co.
9. Grayson, *Adventures in Contentment*. Doubleday, Page, & Co.
10. Plunkett, *The Rural Life Problem in the United States*. MacMillan Co.
11. *Country Life Annals*, March, 1912. American Academy of Social Science, Philadelphia, Pa.
12. Butterfield, *Chapters in Rural Progress*. Chicago University Press.
13. Butterfield, *The Country Church and the Rural Problem*. Chicago University Press.
14. Wilson, *The Church of the Open Country*. Missionary Education Movement, New York City.
15. Carver, *Principles of Rural Economics*. Ginn & Co.
16. Hopkins, *Story of the Soil*. The Gorham Press.

Life in the open country will be enriched by individuals working through institutions. The teacher will exert but little direct influence, perhaps, upon two of these institutions, the home and the church. But her influence upon the school is immediate and direct. It is in the country school that leadership for the open country must be developed. There are 12,000,000 boys and girls enrolled in the country schools of the United States, and not more than 25 per cent of these ever finish the eighth grade, while a much smaller per cent ever go to the high school. So the country school problem is one of national importance and the biggest one confronting the American farmer since the organization of the land grant colleges.

Now what kind of ideals are the country children getting from their teachers? Perhaps the country teacher who has looked over the above list of books is wondering how the reading of any of these will help to teach the multiplication table or spelling. There are several chapters in those books that will help the teacher to see how his own school can be related more vitally to the life of the country people. It is important, of course, that there be excellent instruction in the traditional studies of the school, for the teacher most effectively qualifies for leadership by teaching a good school as we school people understand that term. To illustrate, Plunkett in his book, *The Rural Life Problem in the United States*, says. "We want two changes in the rural mind, not omitting the rural teacher's mind. First, the interest which the physical environment of the farmer provides to followers of almost every branch of science, must be communicated to the agricultural classes according to their capacities. Second, that intimacy with and affection for nature to which Wordsworth has given the highest expression, must in some way be engendered in the rural mind. In this way alone will the countryman come to realize the beauty of the life around him, as through the teaching of science he will learn to realize its truth."

Of all children who are favored by location to appreciate the beautiful imagery of our rich store of nature poetry, it is the country child. We should not wait till the one child out of a thousand reaches the high school to begin on the epic poem like *Paradise Lost*. Paradise here is practically lost to the great

host of boys and girls on the farm who never reach the high school. What the country school should do for these children is to regain Paradise by the study of nature poetry, to open the eyes of country children to the Paradise that now is along the streams and roads and in the fields and woodland. Color of flowers and foliage, form of cloud and dewdrop can be taught in the school in connection with the language values of these beautiful poems of the open country. Require the children to commit to memory many of the finest passages, emphasize much conversational work in the language phase of the poem study and thus the minds of the children are stored with a richer vocabulary and finer ideals and ideas to stimulate expression in oral and written work. This is one way in which "that intimacy with and affection for nature" may be "engendered in the rural mind" as indicated by Plunkett in his book. Do this while the children are young and this finer outlook to nature will stay with them through life.

It is education that must bring about better farming and better living. These things can not be secured by resolutions in a conservation meeting while you wait. The great mass of the farmers is as yet untouched by this new movement. We have to begin with the children, and train a new generation. The country school is the key to the situation, for 95 per cent of the country children go to no other kind of school so far as books are concerned.

Dean Bailey in his book, *The State and the Farmer*, says: "Education should take hold of every factor that means much to the people. Some man some day will see the opportunity and will seize it. The result of his work will be simply a new way of thinking; but it will eventuate into a new political and social economy. When his statue is finally cast in bronze, he will not be placed on a prancing steed or be surrounded by any symbols of carnage or of war. He will be a plain man in citizen's clothes, and he will stand on the ground; but his face will be towards the daylight."

"A dream," you say. Perhaps. But there is a patriotism of peace. And, standing beside the country road, will be the statue of the soldier of the common good with his face to the open country.

A SIMPLE METHOD OF CATALOGUING AGRICULTURAL PAMPHLETS SUITABLE FOR THE SCHOOL OR HOME LIBRARY

BY C. H. LANE, ASSISTANT IN AGRICULTURAL EDUCATION, UNITED STATES DEPARTMENT OF AGRICULTURE

While the libraries of the agricultural colleges and the larger agricultural schools of this country have long made suitable provision for cataloguing and using the bulletins of this department and those of the State Agricultural Experiment Stations, no such arrangement has been made by any considerable number of the smaller agricultural schools or the public schools. These schools do not have librarians to take care of their publications, nor do many of them have suitable filing cases or even sufficient shelf room. As a result the agricultural bulletins and pamphlets, which have been procured in large numbers by these schools, are frequently piled up in some corner, unused and unusable, and the great majority of teachers in the public schools have failed to appreciate the range of useful information embodied in these publications. In the hope of helping such teachers this description of a simple method of cataloguing agricultural publications has been prepared.

With the widespread interest now awakened in agricultural education, teachers are having a hard time at best to procure suitable and reliable literature on all phases of agriculture for reference purposes in schools and to supplement the text-book, but it is hoped that many will have their difficulties lessened by taking advantage of this system of cataloguing, which is so simple as to require very little study and so inexpensive that it can be put into operation in any school where a few cards can be procured for the catalogue and a few shelves can be put up for the bulletins. The system is also a suitable one for filing private collections of agricultural bulletins; in fact, its great usefulness, as already demonstrated in the farm home, was what suggested its application to school conditions.

MATERIALS FOR THE CATALOGUE

With this system only three things need to be provided before beginning the catalogue: (1) A few cards for the catalogue, (2) a box to hold the cards, and (3) cases or shelves where the bulletins can be placed on end.

1. Plain white cards and colored division cards in two colors are needed. There should be as many white cards as there are articles to be catalogued and as many colored cards as there are divisions and subdivisions of the main subject. For 500 bulletins and reports it is likely that 600 white cards and sixty colored division cards (fifteen of one color and forty-five of another) would be sufficient. For a larger number of publications it would be necessary to procure additional white cards only.

The cost of white cards, 3x5 inches in size, which is probably the most convenient size, is from \$1 to \$2 a 1000, depending upon the weight of the cardboard used in making them, and that of plain guide cards, from \$3 to \$6 a 1000, or from 25 cents to 75 cents a 100.

2. A box or drawer, in which to arrange the cards on edge, will be needed. This may be a home-made article or it may be purchased from any dealer in office furniture and supplies. An uncovered oak tray ten inches long, like the one shown in figure 1 costs about \$1.

3. Shelves on which to arrange the publications should be about ten inches apart, and should be provided with perpendicular division boards about every ten to fifteen inches to keep the bulletins from falling down. The shelves may be open or they may be inclosed as in a bookcase.

ARRANGING AND NUMBERING THE PUBLICATIONS

Practically all publications issued by the state experiment stations and this department are numbered. The first thing to be done with numbered publications is to place its own number in bold figures in the upper left-hand corner of the first cover page, so that when it is placed on a shelf between other publications its number can be discovered without removing it entirely from the shelf. Reports and other publications without

numbers should be given arbitrary numbers, selecting for this purpose numbers that are missing in the collection of bulletins. For example, there may not be a publication numbered 5, if not, use 5 on the first unnumbered publication found, and so on with other numbers that are lacking. Or better, such publications may be given decimal numbers, as O1, O2, O3, etc. Clippings may be pasted on a good quality of cardboard the size of a state agricultural experiment station or government bulletin page, and given numbers in the same series with unnumbered publications.

In case there are several publications containing the same number, as for example, a Farmers' Bulletin from this department numbered 428 and three or four station bulletins, each having the same number, the second of these should be numbered 428-1, the third 428-2, the fourth 428-3, and so on.

Following the numbering of all publications properly, comes the placing of them on end in numerical order, reading from left to right, on the shelves of the library or bookcase. In order that time may not be lost in searching for a particular publication it would be well to label the shelves by hundreds, as 1-100, 100-200, 200-300, etc., or to put labels in a similar way on the up-right division boards.

CATALOGUING THE PUBLICATIONS

One colored division card should be prepared for each main division of the catalogue. For convenience and simplicity the scheme illustrated in figure 1 is suggested for the public schools. This provides for ten main divisions, as follows: (1) Educational, (2) agronomy, (3) horticulture, (4) forestry, (5) animal husbandry, (6) dairying, (7) agricultural engineering, (8) agricultural economics, (9) miscellaneous, and (10) sciences. Cards of another color will serve to subdivide some of the above main divisions, as, for example, agronomy is this classification is divided into farm crops, crop pests, soils and fertilizers.

With all materials at hand and the division cards made, the next thing is to make a card for each publication.

Farmers' Bulletin 428 may be taken as an illustration of the method of cataloguing each publication (fig. 2). A plain white

card should be used, and on the upper central portion of this the title and author of the publication should be written thus: Testing Farm Seeds in the Home and in the Rural School, by F. H. Hillman. In the upper left-hand corner of the card should be placed the number 428, corresponding to the number in the upper left-hand corner of the bulletin. The date of issue should be placed near the lower left-hand corner of the card, and to the right of this the kind of publication and its source, thus: 1911—Farmers' Bulletin, U. S. Department of Agriculture.

The completed card should next be placed in the proper division and subdivision in the catalogue. The subject of this particular card is evidently one relating to crop production, hence it would come under "agronomy," and under the subdivision "farm crops." There is also a suggestion in the title that the bulletin contains something especially appropriate for rural school work. If, upon examination of the bulletin, this is found to be true, it would be well to make a duplicate white card, to be put under the division "educational" and the subdivision "school courses," so that one person looking through this catalogue for references to literature relating to school courses would find a reference to this bulletin, while another person who cared nothing about school courses, but who was very anxious to get suggestions for testing his clover seed, would find a reference to the same bulletin by looking under "farm crops."

In the case of reports containing several articles, a card should be filled out for the subject of each article of interest, in the same way that cards should be filled out for individual bulletins or circulars, and each card should be given a number corresponding to the number on the upper left-hand corner of the report. Clippings and very important data found in books should be catalogued in the same manner as just outlined for reports.

HOW TO USE THE CATALOGUE

Supposing now that all of the agricultural bulletins, circulars and reports in a school library or in a farmer's private collection have been catalogued according to this plan, let us see if the catalogue makes a ready and convenient reference for

students in the public school and also for farmers having a library for their own use and the use of their boys who are interested in farm work.

Bulletin 154 of the Alabama College Station reports the results of three years' feeding experiments to determine the value of soy-bean pastures and the most profitable amount of corn to use for fattening hogs on these pastures, and the question of hardening lard and meat hogs that had been thus pastured. Feeding experiments with tankage and cotton seed meal are also reported, together with a summary of Bulletin 143 of the station dealing with supplementary feeds and corn for Southern hog production. The card for this bulletin would read:

154 CORN, SOY-BEAN PASTURE, TANKAGE, AND COTTONSEED MEAL FOR FATTENING HOGS

BY D. T. GRAY, J. W. RIDGWAY, AND E. R. EUDALY

1911.—Bulletin. Alabama Station

From its title the bulletin evidently deals with farm crops, hogs and feeds and feeding, so we should expect to find duplicate cards in each of these subdivisions of the catalogue. A student or farmer interested in looking up all available information on feeding hogs, would naturally look under the subdivision "hogs" in the catalogue, and there he should find a reference to Bulletin 154 of the Alabama Station; another interested in the various uses of corn or soy-beans should find the same reference under "farm crops," while still another looking up information on feeding experiments, should find this bulletin catalogued under "feeds and feeding." Catalogued in this way the bulletin would be fully cross-referenced and would serve three times as many people as it would if only one card was made for it.

Circular 11 of the New Hampshire Station points out the value of books, bulletins and magazines, and the general agricultural press as sources of practical information for farmers, and gives a list of standard horticultural books, bulletins and magazines. The card for this circular would read:

**11 HORTICULTURAL INFORMATION: HOW TO
OBTAIN IT**

BY B. S. PICKETT

1911.—Circular. New Hampshire Station

The first word in the title of this circular would suggest putting a card for it in the catalogue division on "horticulture," but since it also contains some information of a general nature concerning the value of books and other publications, it might be well to put a duplicate card in the catalogue division entitled "miscellaneous," or better, a catalogue division on "references to literature" might be added to the scheme. A student looking for references to helpful literature on horticulture ought to be able to turn to his catalogue, find a card like that described above, and from the number 11 in the upper left-hand corner of the card go at once to the proper circular on the bulletin shelf. Thus, by turning over four or five cards, he would save the trouble of taking down and putting back at least ten publications, supposing he were to start at number 1 to examine the publications.

One more illustration should be sufficient to show the simplicity of this method of cataloguing and the desirability of its use in elementary and secondary schools, as well as in the farm home.

The twenty-fourth annual report of the Nebraska Station contains the director's summary report and reports of the sub-stations, and a financial statement, besides an appendix of scientific papers on a new sawfly enemy of the bull pine in Nebraska, spraying for the melon aphid, genetic correlation and spurious allelomorphism in maize, the relation of climatic factors to the water used by the corn plant, correlation studies of corn, a comparative study of the bacterial content of soils from fields of corn and alfalfa, and the effect of food on the strength, size and composition of the bones of hogs. It is needless to say that not all of this information is of general interest. The articles, however, on corn, the melon aphid, and perhaps one or two other subjects are of sufficient interest to warrant their being catalogued. The cards for two of these articles would read as follows:

24

SPRAYING FOR THE MELON APHIS

BY M. H. SWENK

1911.—Ann. Rpt. Nebraska Station, pp. 35-57

24

**THE RELATION OF CLIMATIC FACTORS TO
THE WATER USED BY THE CORN
PLANT**

BY T. A. KIESSELBACH AND E. G. MONTGOMERY

1911.—Ann. Rpt. Nebraska Station, pp. 91-107

The first card is on a horticultural subject, and should be put under "horticultural pests," while the second relates to farm crops, and should be so classified. Both cards have the same number and refer to the same report, but the page references show that they are from different parts of the report, and also help the student to turn at once to the desired article. These page references serve the further purpose of indicating the length of the article.

A card catalogue on this plan, when once prepared for all the agricultural publications on hand, can easily be kept up-to-date by simply taking a few moments to prepare cards for each publication as it is received. The saving of time to any one having to refer frequently to a miscellaneous collection of pamphlets would be great, and in the case of a school class in agriculture a catalogue is almost as essential as the publications themselves, for the publications are never used effectively without some good system of filing and cataloguing.

At the opening of each school year all new students who may have occasion to use the agricultural bulletins should be shown how to use the catalogue and how to find the publications referred to on the cards.

*Testing Farm Seeds in the Home and in
the Rural School.*

by
F. H. Hillman.

1911.--Farmers' Bulletin. U. S. Dept. Agr.



Fig. 1. Card Catalogue Tray, with Division Cards Showing a Convenient Classification for Agricultural Pamphlets.

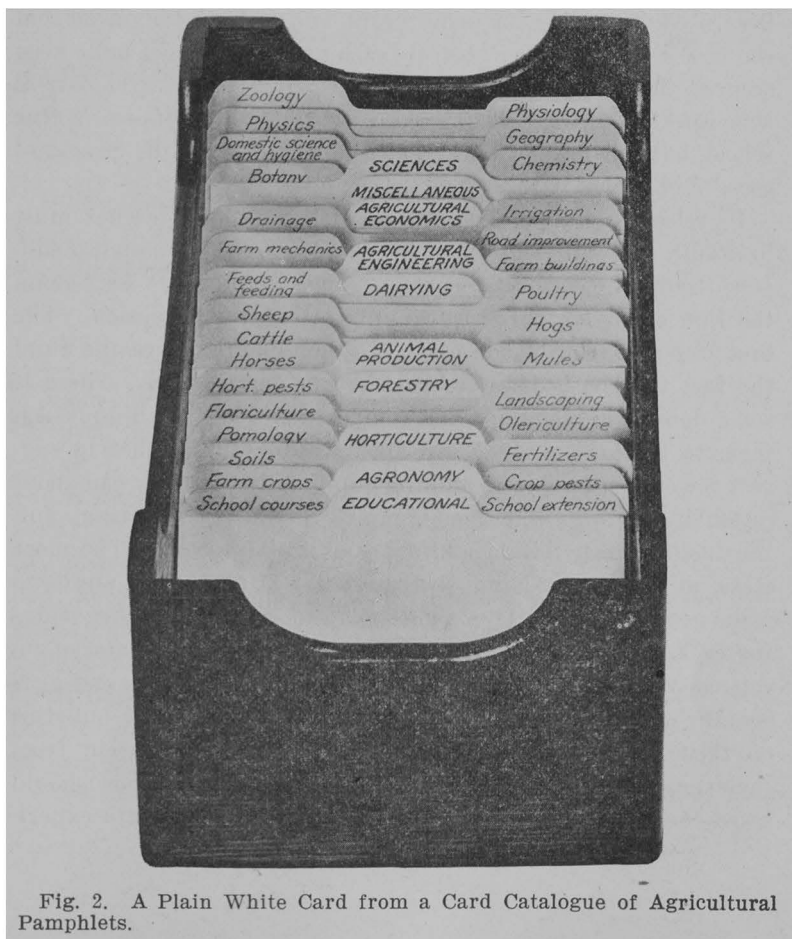


Fig. 2. A Plain White Card from a Card Catalogue of Agricultural Pamphlets.

THE AGRICULTURAL BOOKLET

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INTRODUCTION

The making of illustrated agricultural booklets is one of the easiest and simplest ways of interesting children of the fifth and sixth grades in the subject of agriculture. The use of the illustrated booklet in teaching the various subjects to be found in the rural school curriculum is not a new one. This method of teaching the various subjects found in the course of study has been used effectively for many years, and so I am convinced that the best results in agricultural teaching to beginners have been secured through the use of the illustrated booklet. Not only is this work effectively correlated with the other studies of the school, but this booklet work is also correlated with the boys' and girls' club work of the school or community.

In selecting the subjects for booklet work, the teacher must first fully know the child and his environment and assign a subject, "mule," "cotton," "corn," "home sanitation," etc., along the line of his or her greatest interest and information. The first step should be made easy. Do not flaunt before the child the fact that he is to write an essay or composition. There is some danger in naming this composition effort. Simply ask them to find out all they can about cotton, the teacher to suggest the order of subjects and the pupils to tell all they can about cotton in writing, and then organize their subject matter, and illustrating cover design and pages as they proceed. The more material there is on hand, the easier it will be for the pupils to make good booklets. It is a good plan to secure a large envelope for each subject. Have the children place all the material on cotton, for instance, in the cotton envelope. The boys and girls should be encouraged to bring papers, catalogues and bulletins on farm subjects from home and to gather information from their parents and others in the locality. The teacher should assist the boys and girls in writing letters to their state experi-

ment station, the department of agriculture, seed dealers and others, asking for information on certain subjects. Do not overdo, and allow the child to overwork in this line. Keep a sensible balance on this work as you do in other lines of school-room effort.

REASONS FOR THIS METHOD

It trains for better penmanship, neatness and organizing ability; teaches the child how and where to go in quest of truth, and thereby develops individuality and independence; it encourages a great deal of extra reading, teaches the correct use of English and renders grammar a thing of interest and daily practice. This form of agricultural education dignifies home and farm interests by correlating the common things with daily work in the common branches, such as arithmetic, grammar, geography, physiology and writing, etc.

DIVISIONS OF WORK

Since cotton is the most important farm crop in the State of Texas, I shall take it as an illustration of the method to be used for all farm crops, etc.

COTTON

Make one booklet; the work to be divided in three parts, and to cover the entire school year.

Part I. History of cotton, seed selection, harvesting, ginning and marketing.

Part II. Cotton insects and diseases: Discuss in brief, first, life history; second, treatment of insects. Discuss diseases, first, by giving causes and, second, discuss their treatment, prevention and cure.

Part III. Soils, as related to cotton growing and all the other crops necessary to crop rotation. This part should deal with the elements of good cotton soil, preparation of seed bed, cultivation, seed selection as related to the soil, etc.

Each part of this booklet should, as near as possible, fit into

the three seasons, fall, winter and spring, when the work on the farm will parallel the work of the school.

In a similar way subdivide and plan the work on all of the school interests, corn, oats, hogs, poultry, strawberries, home sanitation, home decoration, beef production, etc. Treat each subject in three divisions, as outlined above. This method will intensify and classify valuable information for the members of the school, as well as furnish a vital relation between the club work and the schoolroom work.

OUTLINE FOR AN ILLUSTRATED COTTON BOOKLET

Use a good grade of drawing paper, 9x12 inches, upon which you can use both ink and water color paints. The cover paper should be white or steel gray. Have in mind durability, neatness and artistic arrangement.

Write with pen and ink. Lead pencil reports should never be accepted.

You should aim to have at least twelve pages inside of each cotton booklet. For your description work use a good grade of pen and ink paper, ruled or unruled, and not larger than 9x12 inches, so as to fit into your cover paper neatly—size 8x11 inches will do. Fasten leaves together on top with a modest colored cord or white baby ribbon. (You should beware of gaudiness.) The holes for ribbon or cork fasteners may be made with a pen knife or a paper punch.

DESIGN

The cover design should indicate clearly the subject-matter to be contained within. It is important that it be neat, original and artistic. Avoid too much color. Sketch lightly with lead pencil, then outline with ink or water color. With a cotton booklet I would suggest a pale cream or shades of green, yellow and red to be used in drawings and illustrations.

SUGGESTIONS FOR COVER DESIGN

First, use green-lined margins on four sides of paper, and dec-

orate center of cover with plenty of cotton seed, printing neatly above and below the words "Cotton Culture."

Second, use lines of cotton bolls for marginal decorations, and show a picture of a boy or girl in a cotton field. It would be well to have these sketched very frequently. Boys and girls can secure such pictures from farm papers. For the main body of the cover, print the words "Cotton is King."

Third, use light cotton-colored margin lines. Place in the four corners the four parts of a boll—flower, pod, seed and lint. Color them white, yellow and red. Then in the center show some attractive farm and cotton scene.

Pages 1 and 2.

On the first page of the booklet give the duplicate report of your cotton plat or some cotton field at home. The experience and observation of pupils is valuable here.

Pages 3 and 4.

Look up some suitable poem or quotation on cotton and illustrate as far as you can by use of cotton pictures, etc., or if you prefer, use a cotton song. Here is an excellent opportunity for the resourceful teacher to get in some helpful memory work in committing poems, etc.

Page 4.

Write a brief history of the cotton plant; tell how it was first cultivated and eventually grown to be one of the greatest industries in history, through the invention of machinery; then tell something about how man has developed the cotton, and how it has ranked among the fiber crops of the world. Name the cotton producing states of the Union in the order of greatest production during recent years.

References: Bailey's Cyclo. Agr., Vol. II, pp. 247-257; The Wild and Cultivated Cotton Plants of the World, by G. Watt; Ala. Expr, Sta. Bul. No. 13; Tex. Exp. Sta. Publications, and Yearbooks of the U. S. Dept. of Agr.; J. F. Duggar, Southern Field Crops, pp. 377-387.

Pages 5 and 6.

Give here a discussion of soil, climatic and season requirements for cotton production. Tell how to fertilize the soil and how to maintain its fertility by crop rotation. (Ohio Bulletin 184, "The Maintenance of Soil Fertility;" Farmers' Bulletins Nos. 192, 278, 48, 144, 326, 257; Bureau of Plant Industry Document Nos. 441 and 631; U. S. Dept. Agr. Soils Bul. No. 62; S. C. Expr. Sta. Bul. No. 145; Ga. Expr. Sta. Bul. No. 79; Ala. Expr. Sta. Buls. Nos. 3, 78, 91, 103, 107, 113, 131 and 145; Texas Expr. Sta. Buls.; Duggar, J. F., Southern Field Crops, pp. 315-339.

Page 7.

Discuss here how and when to select the seed cotton, with reasons. Tell why it is necessary to select the seed in the field, and know its breed type before we select the cotton for seed. References: Tex. Expr. Sta. Bul. No. 79; U. S. Dept. Agr. Yearbook, 1902, pp. 365-389; Farmers' Bulletins 217 and 314.

Page 8.

Tell here how cotton should be planted, dates and rates of seeding, deep or shallow cultivation, etc. References: Bailey's Cyclo. Agr., Vol. II, pp. 257-258; S. C. Expr. Sta. Bul. No. 2; N. C. Dept. Agr. Bul. File, 1909; Ga. Expr. Sta. Buls. Nos. 43, 47, 52, 56 and 59; Ala. Expr. Sta. Bul. No. 107; J. F. Duggar, Southern Field Crops, pp. 341-360; Farmers' Bul. 364, A Profitable Cotton Farm.

Pages 9 and 10.

Cotton machinery and its uses, such as plow, disc, harrow, cultivator, planter, wagon, shelter, gin, cotton fiber, baling, etc. Give illustrations and discuss the value of each. References: Hunt, T. F., Forage and Fiber Crops in America, pp. 364-378; J. F. Duggar, Southern Field Crops, pp. 361-376; Farmers' Bul. 504, pp. 20-24.

Pages 11 and 12.

(a). Use of cotton seed for feeding purposes, (b) uses of cotton seed for home food, (c) manufactured products of cotton, (d) Give here the seven principal or "full" grades of cotton in order of value. References: N. C. Sta. Bul. 200; S. C. Sta. Bul. 131; S. C. Sta. Bul. 47; Ala. Expr. Sta. Bul. No. 107, pp. 369-402; Robinson, T. A., *Classing Cotton*; Tompkins, D. A., *Cotton and Cotton Oil*; Yearbook Reprint 308—Consumption of Cotton in the Cotton States.

Pages 13 and 14.

Discuss in brief, first, life history of cotton insects; second, extent of their injury; third, preventive measures. References: Farmers' Buls. 223, 344, 212 and 290; U. S. Dept. Agr., Bur. Entomology, Buls. 51 and 74; Ala. Expr. Sta. Bul. No. 146; U. S. Dept. Agr., Div. of Pub., Circular 19; numerous publications of the La. Crops Pest Commission, Baton Rouge; of the Ga. State Board of Entomology; Atlanta and most of the Experiment Stations in the Cotton Belt.

Page 14.

Tell here about the chief fungous and other diseases of cotton, by giving cause, treatment, prevention and cure. References: Bailey's *Cyclo. Agr.*, Vol. 1, pp. 450-453; Farmers' Bul. No. 302; Ga., Ala. and Tex. State Expr. Sta. Publications.

Page 15.

Give on this page the value of cotton raising as you understand it and as related to better farming and increased enjoyment of life. Who is benefited by the increased yield of cotton in this state? References: Farmers' Bul. 406; Soil Conservation; Farmers' Bul. 299; *Diversified Farming under Plantation System*; Farmers' Bul. 310; *A Successful Ala. Diversification Farm*; Farmers' Bul. 364, *A Profitable Cotton Farm*.

Page 16.

Tell here any interesting events connected with the cotton

crop or cotton club during the summer season, such as an account of picnics, field meetings, club banquets, fairs, cotton shows, excursions, etc. It will give efficiency and considerable interest to this method of agricultural correlation work if arrangements could be made to hold school or club exhibits, in which samples of cotton on the stalk, together with illustrative booklets, are exhibited by each pupil, and premiums and awards are made for the best exhibits.

Follow in a general way the cotton booklet plan in developing the work in connection with any or all of the following farm and home subjects: Tomatoes, potatoes, cows, poultry, bread making, horses, sheep, hogs, ducks, turkeys, crop rotation, forests, insect enemies, plant diseases, forage crops, covered crops, balanced rations, fertilizers, cultivation of corn, plant propagation, our farm and home, story of our school, soils, seeds, pruning trees, apples, use of vegetables for food, canning fruit, ventilating our homes or schools, our barns, a modern kitchen, farm arithmetic, kitchen arithmetic, the valuable school contests, the care and ventilation of the cellar, etc. The booklets may be graded as follows:

Contents, 20 per cent; neatness, 20 per cent; originality, 20 per cent; amount, 20 per cent; arrangement, 20 per cent.

It must not be understood that the references I have furnished are for the pupils doing the booklet work, but are to serve as guides for supplemental reading, both for the teacher and pupils, and of all the references furnished, none can be of more service to the teacher introducing nature study and agriculture than that published by Anna Botsford Comstock, entitled "The Hand Book of Nature Study for Teachers and Parents," and published by the Comstock Publishing Company of Ithaca, N. Y. The worst thing about this book is its title, and that is not bad, because it amply describes the volume. It is a big book, almost one thousand pages, and not a dull paragraph from cover to cover. Facts! It is full of them, and the reader who does not know how fascinating a fact can be, has only to open this book at any page to enjoy a new experience. All the wild flowers that one knew and loved in boyhood are here, and their photographs are so lifelike. The book not only takes one into the wild

plants and weeds, but also into the flower garden and among the vegetables; it tells of ferns and mosses, of mushrooms and puff-balls. A chapter may be found on tree lore that should tempt any man living out in the woods; fruit trees also, and mountain laurel.

Over half of this valuable book is devoted to animal life. I defy any teacher to keep this charming book out of her pupils' hands, unless her desk has a strong lock, and it is sure to lead school and family from the printed page out where nature is learned first-hand.

THE OUTLOOK IN AGRICULTURAL EDUCATION

BY C. H. LANE, ASSISTANT IN AGRICULTURAL EDUCATION, UNITED STATES DEPARTMENT OF AGRICULTURE

Some of the opportunities that are open to graduates of our agricultural schools and colleges may be classified as follows: It is difficult to find men satisfactorily trained for the teaching of agriculture in the public high schools, especially in the new subject of farm mechanics. It is almost impossible to secure for these positions men who have had any previous teaching experience or special training for teaching, coupled with technical training and experience in agriculture. As public and official appreciation of the need of both of these requirements develops, this will be an attractive field to the capable student who likes teaching.

The increasing use of power machinery in farm operations and the economical employment of the natural forces of wind, electricity and water power for farm use; the laying out and construction of correct systems of farm drainage, water supply and sewage disposal, and the selection, improvement and more efficient use of farm implements, all call for specially trained engineering ability. Scarcely enough men can now be found to teach the beginning of this new profession. There is none more promising to young men who are mechanically inclined.

There is an increasing demand for men who are both scientifically trained and experienced in agriculture to fill important

positions in the state and national civil service, in experiment station work, and with corporations interested in agricultural productions.

While much of the sensational writing intended to stimulate migration from the cities to the country may be condemned as extravagant or, in some cases, wholly unwarranted, the possibilities of satisfactory financial returns from intelligent farming were never better than at the present time. This is clearly brought out in the recent farm survey conducted by the New York State College of Agriculture in one of the counties of that state. It was found that the average annual labor income of 398 farmers having only a common school education was three hundred and eighteen dollars (\$318); that of the 165 farmers having some high school training was six hundred and twenty-two dollars (\$622), and that of ten farmers who had spent one or more years in colleges was eight hundred and forty-seven dollars (\$847). In other words the college man got two dollars and sixty-six cents (\$2.66) for his day's labor, while the common school man got one dollar (\$1). The difference is equivalent to a capital of five thousand, five hundred dollars (\$5500) in favor of the college man. But these college and high school men in New York did not have any instruction in agriculture, and it is safe to say that, if they had been given such training as our agricultural colleges and schools afford, their advantages over their uneducated competitors would have been even more marked.

It may be suggested that a student in attendance at a state university, connected with a state agricultural college, who is preparing for the profession of law, medicine, Christian ministry, or education, would profit greatly by including some work selected from the courses in agriculture. There is a quality of concreteness in the study of agricultural facts, principles and affairs that goes far to balance, and so to liberalize, the literary tendencies of the learned professions.

The demand for well-trained men in agriculture will never be less than it is to-day. The agriculture of this country is increasing in complexity and in the struggle for profitable returns on land rapidly advancing in value. This condition will inevita-

bly create new and greater demands for young men trained to meet the scientific and business problems of the industry, and for those capable of solving these problems there will be a commensurate reward in community leadership, financial return and personal satisfaction in well-doing.

Any attempt to describe the condition in the high schools and colleges of this country with reference to the teaching of agriculture should be based upon a quantitative study of the situation as outlined in the following paragraphs:

Data recently compiled by the Agricultural Education service of this department bring out some very interesting facts concerning the rapid development of college and school courses in agriculture in the United States since the publication of similar data in May, 1910. In this interval of less than two years the total number of institutions of all kinds reporting students in agriculture has almost trebled. From a total of 864 such institutions in 1910 the number has now increased to 2546. This increase is at an average rate of seventy-six institutions a month.

As might be expected, the number of collegiate courses in agriculture has not increased. Although there are now sixty-one collegiate courses, as compared with forty-seven in 1910, the increase is due to the establishment of college courses in forestry in four institutions. There is a considerable increase in the number of privately endowed colleges reporting courses in agriculture, but on account of the nature of their work in agriculture these colleges are listed among the secondary institutions.

In most cases these privately endowed colleges disclaim any intention of trying to compete with the state colleges of agriculture, frankly announcing that their work is secondary or "practical." More than two-thirds of the institutions of this class are in the Mississippi Valley, Nebraska having eight, Illinois six, and seven other states from one to three each. Two of these secondary courses are horticultural, maintained in well-known colleges for women in Massachusetts, and two of the agricultural courses are given by prominent universities in New York.

The largest numerical increase in agricultural courses has been among institutions offering secondary courses, of which there

are now listed 2154, as compared with 630 in 1910. These include the forty privately endowed colleges mentioned above, thirty-five state colleges of agriculture offering secondary courses in agriculture, and a large number of agricultural high schools and public and private high schools and academies. In making up this list only those institutions reporting students in agriculture as a separate subject of instruction have been included, and in the case of high schools and academies which are also doing grammar school work the enrollment of students of agriculture in one or more high school years of the course has been the basis for admission to the list.

The normal schools are not here included in the list of secondary institutions, because their work in agriculture is in many cases purely elementary. They will be mentioned elsewhere. The institutions for Indians have also been omitted from the list of secondary schools because of the difficulty of properly classifying them at the present time. They are included among the elementary schools.

The number of technical agricultural schools of secondary grade, aside from those maintained in connection with the agricultural colleges, increased from sixty in 1910 to eighty-eight at the present time. Eight of these are private schools. The remaining eighty are maintained wholly or in part by state funds in some seventeen states, and entail an annual expenditure by the states in which they are located of \$780,000 for instruction and maintenance, not counting large expenditures for land, buildings and equipment. These are institutions which undertake definitely to prepare young men for the business of farming and young women for home making. Their courses are vocational rather than cultural, or preparatory, and they compete little, if at all, with the agricultural colleges or the public high schools.

The area served by these agricultural schools varies in different states from a single county to a large indeterminate section. In Maryland, Michigan, Mississippi, North Carolina, North Dakota and Wisconsin the county unit has been adopted; in Alabama and Georgia the Congressional District has been adopted as the unit, and in Oklahoma the Supreme Court Judicial Dis-

trict; while in Arkansas, California, Colorado, Massachusetts, Minnesota, Nebraska, New York, Pennsylvania and Vermont the agricultural schools are located without reference to such divisions of the state, and serve indeterminate areas.

Wisconsin was the first state to establish county agricultural schools. In 1911 that state had five such schools in operation, Maryland had two, Michigan two, Mississippi twenty-three, and North Carolina four. Alabama was the first state to provide a complete system of agricultural schools by congressional districts, of which it has nine, and was followed by Georgia, with eleven district schools. Oklahoma has an agricultural school in each of its five judicial districts, and one additional school in the Panhandle.

Of the schools located without reference to special divisions of the state, California has two, Colorado and Minnesota two each, New York three, and Massachusetts, Nebraska, Pennsylvania and Vermont one each.

The number of public and private schools and academies receiving students in agriculture now is 1886. Two hundred and eighty-five of these inaugurated courses in agriculture under the stimulus afforded by state aid, while 1601 started the work without such aid. In 1910 there were only 432 of the unaided high school departments of agriculture, a little more than one-fourth of the present number. The largest number of unsubsidized high school courses in agriculture is found in Ohio, which reports 336. Nebraska has 191, Missouri 167, and Wisconsin 103. The United States Bureau of Education reports that in 1910 there were over thirty-seven thousand pupils in agricultural courses in the public and private high schools of the country. The number is undoubtedly much larger this year.

State aid to stimulate the introduction of courses in agriculture, home economics and manual arts into public high schools was first definitely provided for in Virginia in 1908, when the General Assembly appropriated \$10,000 to be used for that purpose in at least one high school in each of the ten congressional districts in that state. Virginia was followed in 1909 by Maine and Minnesota, in 1910 by Louisiana, Maryland and New York, and in 1911 by Kansas, Massachusetts, North Dakota, Texas, and Wisconsin. In the spring of 1910 there were twenty-eight sub-

sidized courses in agriculture in public schools; today there are more than ten times as many. Kansas has the largest number of subsidized courses in agriculture—an even 100; Minnesota has eighty, Texas thirty-four, Louisiana twenty-five, and six other states have from one to seventeen.

The amount given to each school varies from \$250 in Kansas to \$4000 in Virginia. Minnesota devotes \$125,000 annually to this work. The total expenditures for subsidies in 1912 will approximate \$400,000. This will include subsidies for home economics and manual arts in all of the subsidized schools except those in two states which subsidize agriculture and home economics. Virginia is the only state that subsidizes extension work done by public high schools.

No attempt has been made to list the elementary schools teaching agriculture, except in the case of industrial, eleemosynary, and special agricultural schools, of which there are thirty-seven for whites, one hundred and twelve for Indians, and fourteen for negroes. In addition to these, there are of course many hundred public elementary schools in which some instruction in agriculture is being given. Twelve states have passed laws requiring the teaching of agriculture in all common schools, five others require it in all the rural schools, and three others require it in the rural high schools.

The preparation of teachers to give instruction in agriculture is one of the serious problems confronting the promoters of this movement. That and the inability of many schools to pay large enough salaries to retain good teachers are the principal causes that prevent the development of agricultural teaching at even a more rapid rate than it is now progressing. With a view of insisting upon some knowledge of agriculture on the part of teachers, sixteen states have passed laws requiring teachers to be examined in this subject; but it has been found that these requirements alone do not solve the problem.

The facilities for training teachers along vocational lines are inadequate. The state normal schools are doing what they can to prepare their students for such work, but the time that can be given to vocation subjects in a year or two in the normal school is extremely limited; and besides, the normal schools enroll only a small percentage of those who teach in the rural com-

mon schools. Their students go largely into the grade work of village and city schools. Out of a total of about two hundred normal students, one hundred and fourteen of those for whites and thirteen of those for negroes, are giving instruction in agriculture. In addition to these, there are in Kansas, Michigan, Nebraska, and Wisconsin about 280 high school normal training courses of one or two years in length, which include some work in agriculture. It is said that a large percentage of those who graduate from these training courses go directly into the rural schools, and while the training they get in this way is by no means adequate, yet it is better than that secured by the average rural teacher. With the state normal schools and these training courses there are now over four hundred institutions giving instruction in agriculture to prospective teachers in the elementary grades, and while the meagerness of the instruction they can give in agriculture is to be deprecated, it is nevertheless encouraging to know that something in this line is being done in such a large number of institutions.

Trained teachers for the high-school courses in agriculture are also scarce. The graduates of the four-year courses in the colleges of agriculture find such attractive opportunities in farming or the salaries offered them by agricultural colleges or experiment stations are so large that teaching in the public high schools as a profession does not appeal to many of them. The initial salaries offered by high schools may be as good or sometimes better than these graduates could command in other lines of professional or practical work, but the outlook for permanent employment and for increasing returns as the years go by is not so good.

The condition with reference to teachers of agriculture is somewhat better in the special agricultural schools and the subsidized agricultural departments in public high schools than in the ordinary public high schools. In the former the employment of trained teachers of agriculture is usually one of the conditions upon which state aid is given. The permanence of agriculture in these schools is assured, and, furthermore, the funds from the state treasury enable the local authorities to pay relatively high salaries without seriously affecting local taxation. Under such conditions, the teaching positions in the vocational

subjects are sufficiently attractive to secure the favorable consideration of agricultural college graduates.

The agricultural colleges are helping to solve the teacher problem. To meet the present emergency among teachers now in service, they are holding summer schools, conducting traveling schools in connection with teachers' institutes, and offering special courses in agricultural subjects for the graduates of other colleges and of normal schools. This undoubtedly is work that needs to be done in all parts of the country.

Recent experience indicates that many of the successful teachers now in service, after taking short courses of a few months or a year devoted almost exclusively to agriculture and methods of teaching it, are likely to become our most successful high-school teachers of agriculture. They have already acquired the high-school point of view, they know the limitations of high-school pupils, and they are not likely to attempt college work in high-school classes. Their college work in a new and inspiring subject of study gives them renewed freshness and enthusiasm, and they readily see the possibilities of agriculture without being led unduly to magnify its importance.

In other ways the agricultural colleges are beginning to make their influence felt in the teaching profession. The Bureau of Education reports that thirty-six of the colleges for white persons now offer their students some opportunities to fit themselves as special teachers of agriculture for high-school work. Some of these offer only certain courses in general education, elective to students in agriculture; a larger number offer courses in general education and special courses in agricultural education; a few which have departments of education allow students in these departments to elect courses in agriculture; while none offer prescribed four-year courses for teachers. This feature of agriculture college work has grown rapidly in the past two years, and it will probably develop more rapidly in future.

Whatever the agricultural colleges may have done in a special way to encourage the teaching of agriculture in high schools, an examination of the statistics of high-school courses indicates pretty clearly that their influence upon this movement has been productive almost in direct proportion to their activity. As evidence of this it may be said that over eighty per cent of the high schools teaching agriculture are in eighteen states having

in their agricultural colleges some definite organization—an extension department, a department of agricultural education, a teachers' course in agriculture, or some other definite agency—for reaching the public schools. And, if the four or five states were selected which are showing the largest results in public school work in agriculture, these would be found to be states whose colleges of agriculture have been longest in this field and most active in its cultivation.

THE TEACHING OF AGRICULTURE IN THE RURAL SCHOOLS OF TEXAS

BY

C. H. WINKLER, INSTRUCTOR IN BOTANY IN THE UNIVERSITY
OF TEXAS

If the rate of progress of a movement is a fair index to its importance, this movement that we call industrial education, of which agriculture is a very important part, is worthy of serious consideration by all teachers, in fact, by everyone interested in our school system. That agricultural education is a subject of general interest was shown by the statistics given us by Mr. Lane; that it is a subject of special interest to the rural schools has been demonstrated wherever agriculture is being taught under the supervision of an efficient teacher.

What has been done in the rural schools elsewhere in this country, can be done in Texas, and, although we are young in this work, and in spite of some mistakes made in legislation pertaining to the teaching of agriculture in the rural schools, as well as in the teaching of this latest of all additions to the course of study, we are beginning to see more definitely than before the purpose of this work, its relation to the courses already offered, its relation to the pupil, to the home, and to the community, and to apply such methods of instruction as will best accomplish this purpose.

The introduction of agriculture into the rural schools of Texas is the result of legislation and not of an awakening

among the patrons of these schools to the fact that a redirection along lines more closely related to their environment would increase their efficiency. Had it come about because of such a sentiment, the interest in agriculture and the present trend of agriculture teaching in our rural schools might have been different. As teachers in Texas schools you are familiar with this movement to get some form of agricultural instruction before the masses of the people, a movement that assumed definiteness in the legislative act requiring all schools to teach agriculture. Although this compulsory teaching of agriculture has failed to meet all of our expectations, it has resulted in the accomplishment of much that is good.

It has shown the need of trained teachers, which brought about further legislation two years later providing for the training of teachers in agriculture in our normal schools and in special summer school courses offered by these normal schools, the College of Industrial Arts, the Agricultural and Mechanical College and The University of Texas. It has aroused a statewide interest in the teaching of agriculture, and has been largely responsible for a considerable volume of the agricultural literature recently published, especially that dealing with agricultural education.

Now that agriculture has been put into the schools, the most important immediate problem is "what to teach," and in a program already overcrowded, "when to teach it," and "how to teach it?" No definite answer to these questions has been worked out as yet. Agriculture is a big subject and no one knows just yet how much of the elementary principles should be taught in the public schools. Numerous courses of study have been suggested, but it will require years of study and work before we have passed through the experimental stage in determining just what to teach in the public schools. About all that may reasonably be expected of the rural schools at this time, is to interest the pupil in country life subjects so that they may derive more pleasure from the things coming into their daily experiences. We may teach them to know the common birds, insects, trees, weeds and some of their habits. This is nothing more than nature study. In addition to this we may teach them some of the best farm practices, such as selecting and test-

ing seed, preparing and tilling the soil with reference to storing and holding moisture; some of the beneficial effects of crop rotation; the proper care of domestic animals; the care of milk and value of its fat content, etc., and through such studies lead children to a better appreciation of the opportunities in their immediate vicinity.

It is very important to develop a spirit of sympathy for agriculture in the minds of all children and to bring them into actual contact with the farm life. Thus far almost everything in education has tended to direct them away from the farm. The district school, supported by a farming population, and giving instruction to farmers' children only, has failed to do one thing to prepare its pupils for a better farm life. Instead, it has tended to direct them toward other pursuits, in spite of the fact that more than 85 per cent remain on the farm. How best to develop this interest in and sympathy for the common, everyday experiences is the great task of the teacher of agriculture. And, right here, let me ask how is the teacher who was reared in the city and who has shared in none of the rich experiences of country life to approach such a task? She may be in possession of all the helpful literature on this phase of agriculture teaching, yet, without some training in the common farm practices, obtained in the laboratory and school garden, or in that larger laboratory, actual farm experience, her work is likely to result in disappointment, not only to herself, but to the entire community.

It is not my purpose to discourage and disparage the noble efforts that are being put forth in many communities to teach agriculture. I merely wish to show how utterly impossible it is to obtain satisfactory results so long as we are without trained teachers and without proven methods in the teaching of agriculture, and later I shall call your attention to some of the dangers that now threaten agriculture in the rural school because the teacher herself has so little in common with country life ideals.

The task is much more difficult than the teaching of agriculture in the high school. In the high school it has been practicable to adapt the methods, with but slight changes, that are used in the agricultural college, and the teacher can specialize

on one or two subjects, and thus will have more time to devote to agriculture. A better equipment, also, is provided for this work in the high school. And, since agriculture in the high school has come in response to a desire on the part of the patrons and the school board, an interest is taken in the work, whereas the average farmer is not in sympathy with the movement that put agriculture in the common schools, nor is his attitude likely to change until the schools have demonstrated their ability to deal more efficiently with the subject. The attitude of "the Missourian" is typical of the attitude of the Texas farmer in this respect; he has to be shown. And, not until the schools have made good in the teaching of agriculture, is he going to aid the work. While that was a beautiful prophecy made here a few days ago, the schools of Texas will first have to "make good" in the teaching of agriculture, and show the farmer and business man that this work is being done in a way that will benefit him and his children before he will contribute largely toward its support.

These are some of the obstacles that now prevent efficient teaching of agriculture in our public schools. They are not new problems, and we have already made considerable progress toward their speedy removal. Rural high schools will give us more efficient teachers for our public schools. As soon as we have trained teachers the farmer will change his attitude and, instead of remaining aloof, he will put his shoulder to the wheel and do all in his power to advance the work. But we must have teachers who have a broad enough vision of rural school work to adapt it to the environment, establish a closer relation between the school and the home, the farm, the shop, the dairy and the whole community life.

A dangerous trend in the teaching of agriculture in the public schools is now evident. In nearly all schools it is taught purely as a text-book subject, without demonstrations or laboratory and field work. Agriculture can not be taught in this way any more than chemistry can be taught without a laboratory. One of the prime purposes of industrial education is to develop the powers of observation and to train the hands. To actually engage in work, in the work of the farm, is the best way of bringing about a different attitude toward farming.

The dignity of labor is an important lesson that American children should learn, and the only place many have for learning it is in the public school.

How agriculture may be taught in an already overcrowded schedule is a problem that is being solved in various ways.

(1) Omit studies that are of less importance, or give less time to them, and thus make room for agriculture, is one solution.

(2) Another plan is to devote one or two hours weekly to talks before the entire school on some subject in agriculture, and supplement this with garden work, either in the school garden or at the pupil's home, and finally (3), by a proper redirection of the work or correlation of the work in arithmetic, language and geography, agriculture may be taught without changing the present course of study. These are expedients that are recommended only where agriculture cannot be given as a regular study.

THE ESTABLISHMENT AND MAINTENANCE OF RURAL HIGH SCHOOLS IN TEXAS

BY T. H. SHELBY, CHIEF CLERK OF THE STATE DEPARTMENT OF
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THE NEED

There is no shortcoming of our rural school system that is half so keenly felt among educational leaders to-day as the utter lack of high schools within reasonable reach of the 633,000 boys and girls residing in the rural communities of this state. Only 32,298 white children of scholastic age in Texas were enrolled in high-school subjects during the scholastic year 1909-10. Three times as many children of scholastic age were not enrolled in the schools at all during the same year. Two-thirds of 1 per cent of the enrollment of white children in the public schools graduated from the high schools. Of the 4609 white graduates reported, only 859 graduated from high schools in the rural districts, which is thirteen out of every 10,000. To the vast majority of country boys and girls high-school opportunities will never come except through the generous estab-

ishment of rural high schools. In most instances parents are unable, financially, to support their children in schools away from home. Furthermore, the child's services are needed in the home, to some extent at least, during the hours when school is not in session. Again, the child, if sent away to town to board and attend school, must leave home at the time he stands most in need of parental care and control. Disaster to the developing character too often results.

The observations of all those who have studied the question indicate clearly that the great exodus to the cities and towns of our rural population for better school and social opportunities is, in many instances, working disaster not only to the children, but also to their parents, as well. Persons who have adjusted their habits of life to rural conditions, who have become influential in the community life, and who hold positions of leadership, frequently are unable to maintain their high standards under the artificial conditions of city life, with which they are in no wise familiar and for which they are not trained. Have we not all known people who were leading church workers and foremost in social and political affairs in the rural community to become backsliders and non-churchgoers after a few years' residence in the city, and to take an insignificant place in the social and political life of the city or town community? I could at this moment name a half-dozen families in which the older children who were somewhat mature when the family moved to town, made good records in their classes and became worthy citizens. The next younger children did not measure up to the standards required, and, in some instances, failed to complete the work of the high school. The third and fourth children of the families, in several instances, completely failed to accomplish the work of the school in an acceptable manner, and shipwrecked before they had even reached high-school advancement. Had these same families remained in the country, retaining the standards which they there maintained, and had the children been given proper educational advantages at home, who will deny the benefits to them individually and to society?

Waiving all objections to leaving home for high school training, the fact cannot be successfully contradicted that the cur-

riculum of the city school, in the main, does not train the boys and girls toward the farm, but, on the other hand, away from the farm. College dominance on the one hand and industrial and business demands on the other drown the call that comes to our city schools from the open country. The colleges demand much of languages, literature in abundance; history for at least three, if not four, years, mathematics every year, modern languages, natural sciences, including chemistry, physics, botany, zoology, etc. The powerful industrial plants of the cities are demanding a training that will fit boys to become trained artisans. The forge and shop work, use of cabinet tools and electrical engineering work must have increased attention from the school if the industries are to co-operate in support of same. The business world requires that the school shall train expert stenographers, accountants and proficient in business dealings and manipulations. These schools are continually educating the few who come from the country to the town school away from their early environment. Nothing suggests to them the dignity or the technical importance of the agricultural pursuits. I doubt not that in our state, so largely agricultural, this is wrong. Industrial and business demands should not outweigh the demands for training for rural life, even in the larger centers of population and industrial activity. Could we successfully meet this issue, we yet stand face-to-face with the bold, hard fact that the great masses of country boys and girls cannot or will not go to the town high school. Ninety-nine of every one hundred of the country boys and girls, those of our sons and daughters whose blood is the richest, whose bodies are the strongest, whose brains are the clearest and whose spirits are the purest, will not under present conditions have a chance to get even a high-school education. Approximately fifty-four thousand of them will pass out of scholastic age on September 1, of this year, and for them the door of opportunity is forever closed, insofar as free school education is concerned. The proper education of these noble sons and daughters of Texas rests upon our shoulders, and we cannot justly or honorably shift the responsibility.

MORE MONEY NECESSARY

One good index to school conditions is to be found in the valuation of school property. Of the 991,000 pupils of the state, 633,000 are in the rural districts. The value of all school property in these rural districts is only \$6,000,000, as compared with \$16,000,000 in the towns and cities. Two-thirds of the children of the state are being educated, if at all, in schools, the value of whose property is only 28 per cent of the total for the state.

Fifty-five per cent only of the common school districts levy local taxes, while 93 per cent of the independent districts levy such taxes. If we compare location and size of school grounds, quality and serviceableness of school building, necessary school equipment, such as maps, globes, charts, and even blackboards, not to mention library and laboratory facilities, of independent districts with those of common school districts, we find a disparity which condemns the rural school.

PUBLIC SENTIMENT MUST BE AROUSED

The thing of first importance is to arouse public consciousness, dynamically and effectively, to a realization of the fact that high-school education must be extended as rapidly as possible to all classes and persons of all conditions and circumstances of life. We must realize that not only is this opportunity an inalienable right of every boy and girl, but also that society and the state must carry whatever of an unwholesome nature may result from ignorance. Each local community must make up its mind definitely and effectively that the best is not too good for its children. We must decide to pay for the best.

The most feasible method for establishing rural high schools is by systematic consolidation of school districts. The Rural High School Law provides the necessary legal procedure. Considerations of prime importance which should guide the county board of education and the county superintendent are the population, the area, and the valuation of taxable property in the territory to be consolidated. There must be a sufficient number of pupils of school age within the territory to maintain

a high school. The area of the district must not be so great that access to school from the more remote parts is too difficult or such as will, on account of cost, render transportation impracticable. The valuation of taxable property must be of such amount that the maximum tax authorized under the law will raise sufficient revenue to sustain the school. The sentiment of the community toward a good school must be such as will insure that the maximum rate will be authorized if necessary. Let us face squarely the fact that the present maximum tax rate as authorized by the Constitution will not provide the necessary revenue for maintaining good high schools in the country districts. In many of the independent districts and small towns all over the state the wail comes now that the maximum is insufficient. This limitation, insofar as the Constitution is concerned, should, and must, be removed in the immediate future. The principle is democratic and statesmanlike, and the practice is progressive. We would be but following, somewhat tardily, the lead of other progressive states in pursuing this course. With this increased local support we must provide better school sites, larger and better school houses, modern equipment, better-trained teachers, and teachers especially prepared for teaching in the country. Public sentiment must be so developed that it will revolt against that species of philanthropy which actuates the farmer to donate a half-acre of ground on some creek bank or waste corner of his pasture for school purposes, and will class such action as ordinary selfishness. The people must be taught to have large plans, not only for present, but also for future needs in planning the construction and equipment of the school-house. The building should be the most beautiful, the most commodious, and the most substantial building in the community, a source of pride and pleasure to all the citizens.

Classification and gradation of schools and uniformity in the course of study are prerequisites to a systematic development of high schools. In many of our rural schools pupils are not classified according to any recognized standard, and a pupil may be studying subjects which are distributed over two, three, or even four grades. Some of his work is too easy for his advancement, and some of it is too difficult for him to gain any definite knowledge of the subject-matter. This condition re-

sults in discouragement and failure on the part of the pupil. Again, a lack of proper gradation results in a multiplicity of classes, the teacher attempting to hear thirty or forty recitations during one short day. There is slight need for high schools if 95 per cent of our pupils, on account of such conditions, drop out of school before they reach even high-school advancement. Is it any wonder that they drop out anyhow?

Another prerequisite to establishing high schools is the correlation of schools one with the other. Live and professional county superintendents in many counties have accomplished much along this line in recent years. During the last twelve months the state course of study has been adopted in the main in a majority of the counties. No well regulated system of schools can ever be established without uniformity in the course of study throughout the county and practical uniformity throughout the state. It is necessary that the schools be classified and that the work be limited in order that the quality of the work in each school may conform to a certain standard, and that the pupil finishing a certain grade in one school of the county may be able to enter the next higher grade in any other school of the county or of the state. The authority and the responsibility of bringing about the above results is clearly and definitely vested by the Rural High School Law in the county superintendent and the county board of education.

NATURE OF THE HIGH SCHOOL WE SEEK TO ESTABLISH

The next question of concern is, What shall be the nature of the high school? I desire to register the belief here and now that we cannot succeed in our efforts if we merely attempt to transplant the city high school, as we ordinarily find it to-day, into the country. I doubt if the difference between the city high school, as it is, and the rural high school, as it should be, ought to be so different as at present. Some branches always will be, and should be, found in both and taught in much the same manner. There must be many points of dissimilarity due to different environment. The curriculum of the rural school must manifest more rural characteristics.

The slogan of the Nation is "Back to the farm." Each suc-

ceeding Federal census indicates a greater and greater influx of people into the cities and towns. In 1900 50 3-10 per cent of the farms in Texas were operated by the owners. In 1910 only 47 4-10 per cent were thus operated. In 1900 23 4-10 per cent of the farms were mortgaged. In 1910 33 1-3 per cent were mortgaged. These unwholesome conditions challenge the character and the effectiveness of the work of our common public schools. The rural high school of the future must relate its work in a very practical and vital way to the needs of the community life. The conservation of natural resources is the dominant note of the entire nation.

A few examples will illustrate the importance of proper instruction along this line in our rural high schools, as well as in the city schools. There are enormous timber resources in the eastern section of Texas. A casual observation will reveal the fact that, at the present rate of waste, in a few years or decades, at most, the supply will have been consumed. In all saw-mill districts the waste appears to be ruthless and wanton, the only thought being to extract the greatest amount of revenue in the shortest possible period of time. Insects of various kinds are preying upon our timber and causing enormous losses each year. As the cutting of the pine timber proceeds, the danger from disastrous fires on account of decaying tops which are left scattered pell mell, becomes more alarming. Should not the high schools in the timbered districts of the state offer courses in forestry and timber preservation that the rising generation may be instructed along these lines and be impressed with the importance of these things?

There is no country in the world that has a greater soil resource than has Texas, and yet, in the black land rolling prairies of our state this fertile and productive soil is permitted to wash away and be carried by the streams into the gulches and rivers. The lessons in agriculture should instruct the pupils theoretically and practically in how to prevent the washing and wasting of soil, the importance of proper seed selection, the effect of rotation of crops upon their production and the principles of proper fertilization. In many of the black land counties at the present time the return each year on this black virgin soil is diminishing, and it will not be a great many years before the

soil will have been entirely exhausted unless some steps are taken toward its conservation. The agricultural experiment people and other agencies are rendering a worthy and important service in this line; but the fact remains that, if we are to accomplish great results, we must educate the rising generation. Many farmers, being unable to understand the underlying principles which are involved in the practice of scientific agriculture, have become prejudiced against the new-fangled ideas.

The study of home and farm economics is coming to be recognized as of equal value with the study of Latin grammar in the proper education of the country boys and girls. There is enough wasted on many of the farms of Texas each year to support the entire family and have a nice surplus. The boys need to be taught how to take care of the feed crop, how to best store it away in order that it may not be wasted by rats and other vermin and insects. The girls need to be taught how to utilize the products of the farm and how to best prepare them for table use. The study of domestic science, in all of its relations, is of more importance to the girls of the rural communities than it is to the girls of our cities and towns, in which we find these departments in nearly every school.

The study of business principles that are involved in these various activities is also a matter of prime importance. The boy or the man who raises 200 bushels of corn to the acre at a cost of 75 cents per bushel, when corn will sell for only 60 cents per bushel, is a good corn raiser, but a very poor business man. The person who raises 500 chickens at a cost of 50 cents a head may be a good chicken raiser, but he will never have a very large bank account to his credit. This same rule applies to other lines of activity upon the farm. The test of milk to determine the quality of cream, as a result of scientific investigation, has increased the dairying products of the State of Wisconsin from 25 per cent to 100 per cent in various portions of the state. The cow that furnishes five gallons of milk per day, but only produces a quarter of a pound of butter per day, may be a good milk cow, but a very poor bit of property, from an economical standpoint.

Of no less importance than the production of farm crops is the marketing of the same. How many farmers in Texas are

in position to know whether or not they receive the proper classification of their cotton when they sell it? The sample is examined by the man who is employed to buy; the classification is made by him; and the price is fixed by him. The farmer has no idea whether the classification made is correct or not, and, in many instances, does not even know whether, upon the classification given, the price is approximately correct. This is true, notwithstanding the fact that it is a comparatively easy matter to learn how to judge cotton and how to classify it, and could be taught to every boy in the high school in a comparatively short period of time. What applies to the marketing of cotton, applies also to the marketing of all other crops which are raised on the farm. After all, the important thing for consideration is the net profit upon the crops raised.

Concerning country-life education, the Country Life Commission appointed by President Roosevelt in 1908, has this to report:

"There must be not only a fuller scheme of education, but a new kind of education. The country schools are to be so re-directed that they shall educate their pupils in terms of daily life. Opportunities for training toward agricultural callings are to be multiplied and made broadly effective. Every person on the land, old or young, in school or out of school, educated or illiterate, must have a chance to receive the information necessary for a successful business and for a healthful, comfortable, resourceful life, both in home and neighborhood. This means redoubled efforts for better country schools, and a vastly increased interest in the welfare of country boys and girls on the part of those who pay the school taxes."

The late Dr. S. A. Knapp, who has probably done more to uplift rural life and to give schools in the country proper direction than any one else, has this to say: "The second great step in the rural uplift is the consolidation of the rural schools. The neighborhood school is simply adapted to a people in a very elementary condition of society. They are simply kindergarten schools; but, when too many branches demanded by modern conditions are thrust upon them, they are totally unsuited to meet the requirements of the people. It is better for parents to send their children a greater distance and have a real coun-

try school, properly equipped and graded so as to meet all the requirements of rural education." The high school alone, with a well-ordered and properly equipped plant, with specially trained teachers, can meet these demands. The school will then become a center for disseminating, not only to the pupils who attend, but also to citizens outside of school, the latest practical, scientific discoveries and experimental results relating to crops and crop improvement, improved methods of harvesting and caring for crops, and the best form in which the products may be prepared for marketing, as these things apply specifically to that community. The people can be brought together in the school assembly hall to observe simple experiments on soil testing, milk testing, tests of various fertilizers and other fundamental problems of farm life. The women can obtain instruction in domestic science and clubs of various sorts, not only for the pupils in school, but also for the young people of the community, and the older people, can be organized. All such plans must have definiteness of aim, and must be worth while. The school will thus become the center of the community for social activities, a thing much needed in the country, and will become the thing of chief interest, and will be recognized as the one indispensable asset to the community.

One of the most difficult problems for solution will be where and how to obtain teachers for these schools. Briefly stated, my contention is that the agencies proposing to furnish teachers must devote their attention more specifically to training for teaching in the country, and the salaries paid such teachers, who should be experts, must be commensurate with the outlay of money and time required in the preparation. The general scholarship of the country teachers must be raised. Ten thousand of the 20,000 public school teachers of Texas hold only second-grade certificates, and practically all of these are teaching in the country schools. Our people must be brought to realize the absurdity of a second-grade teacher's attempting to do first-grade or high-school work. A teacher whose maximum scholarship is represented by a second-grade certificate, which is about the equivalent of the completion of the sixth or seventh grade of a first-class graded school, can't get results in a rural high school. Our state normal schools must extend

and amplify their manual training, domestic science and agricultural courses. The University must be strengthened in its agricultural department, in its domestic science work, and must give us manual training. It must devote itself to a study of farm economics and rural social life. Not only must these be taught in a broad and thorough way, but they must also be taught to persons who in turn are to teach them in the country. They must be teacher-training courses. The study of forestry as an abstract, academic subject, is a very different thing from the study of the forestry of Texas, with the view of teaching this subject to Texas boys and girls, and with a view of making it popular, practical, and of economic value to the community. Other agencies in the state must be established for teacher-training. The denominational colleges and universities have an opportunity in this line that will place them in position to draw larger numbers of students from the country, and will enable them to render a more important and lasting service to the state.

In a certain community in our sister state, Louisiana, it was decided a few years ago to establish an agricultural high school. An enterprising leader of the community worked up considerable interest in this school, and, after erecting necessary buildings, it was found that only \$650 remained with which to employ an agricultural teacher. Application was made to the agricultural experiment station of that section for a man to take charge of the school. The answer of the manager in charge of the station was to the effect that a man who could do this work could not be obtained for less than \$800. After some hesitation it was decided to employ the man recommended by the experiment station people and to make up by private subscription the difference between the \$650 and the salary required. This was very difficult to do, but finally became an accomplished fact. The first work of this teacher was that of testing seed corn. He requested the children to bring samples of seed corn to the school, where the tests were made under the observation of the children, they being instructed meanwhile in the principles of germination and life reproduction, etc., while, at the same time, they observed the practical methods of making the tests and the results of the tests. The reports of the tests as

made were carried by the children to their parents. One farmer in the community was somewhat skeptical about the teacher's experiments, and determined to put him to the test. He selected five ears of the corn from his open log crib, the corn having been exposed to the cold and damp weather during the winter months. He selected such as would, in his opinion, be good seed to plant. These he shelled and placed in a package to themselves, marking the package in his own peculiar way. He then went into the garret of his house, where he had several bushels stored, and selected five ears, to all appearances exactly like the ones selected from the crib. These he shelled and placed in a package, which he marked in his own peculiar way. The packages were sent by the children to the school. The tests were made under the observation of the children in the school, and the report on each package returned to the farmer. The report showed that 95 per cent of seed corn in the package which came from the garret produced strong, healthy, young plants, while only 70 per cent of the corn which had been exposed in the open crib would germinate at all, and in a number of instances the plants were weak, and showed a lack of vigor. This farmer became a convert to the work which he had formerly designated as foolishness. He furthermore became an ardent supporter of the public school in his community.

This same teacher observed that many of the orchards in the community were infected with a kind of lice, that the fruit was inferior, and did not ripen properly. He made a careful study of the subject of orchard infection by insects, instructing the children as to the proper methods of making solutions for spraying the trees, and studying the various kinds of insects and their effect upon plant life. At the proper time he procured the permission of one of the farmers to spray his orchard under the observation of the children of the school. This was a matter of great interest to them, and they received much valuable information from the operation.

The next year this teacher was offered a position as expert field man in that state at \$1800 per year, and was upon the point of accepting the work, when a committee of farmers approached him and assured him that, if he was leaving on account of the salary, he should not go, that they would gladly pay him whatever salary

was necessary to retain his services. Passing over a few years, the facts show that every orchard in this community was freed from the infection of the lice and insects which had been preying upon it for several years back. The people came to realize that the school was the most important asset to the entire community from an economical and business standpoint, and they rallied freely to its support in whatever activity was undertaken by it.

The relation between the school and the taxpayer is a mutual one. That school has no right to expect the unstinted support of the taxpayer which does not, in a very vital and practical way, attempt to assist him in the solution of some of his everyday, practical problems on the farm, and the taxpayer who is not willing to pay his part for the support of the school, has no right to expect a return to himself.

I shall not extend this paper further than to suggest the tremendous importance of efficient and effective county supervision if we are to realize the rural school uplift. The county superintendent should be the best-trained man in the entire school system in the county. He should be trained thoroughly along these special lines, or at least should be a live and aggressive student of the same. He must not only know a good school when he sees it, but he must also be wise in counsel and resourceful in planning the establishment of such. He must know local people, which means that he must be a student of human nature; he must know local conditions; he must be tactful in all things and strong in executive and administrative skill. To bring about such results, the office must be dignified. The qualifications must be raised, and the maximum salary limit removed, so that more of the best men will be attracted to the office, and will not be ready to leave the work when the first good opportunity presents itself.

LOCAL TAXATION IN RURAL DISTRICTS

BY E. V. WHITE, OF THE STATE DEPARTMENT OF EDUCATION,
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INTRODUCTORY

Without indicating any given phase of the subject, the Dean of the University Summer School has invited me to discuss the general question of *Local Taxation for School Purposes*. Time will not permit me to mention all that might be said under a subject so broad and so important. I shall therefore attempt to discuss only such parts of the subject as seem most appropriate to this occasion.

Before this audience I assume that it is not necessary to discuss the righteousness of the principle of levying taxes for educational purposes. I therefore dismiss this phase of the subject with the following statements: The justice, the wisdom and the propriety of exacting taxes for the liberal maintenance of good schools should not in this day and time be a debatable proposition with a progressive county superintendent or with a conscientious prospective county superintendent. If he has to debate the proposition to determine where he stands, or if he has to hold chimney-corner consultations with friends to determine whether the proposition shall be a plank in his political platform, he should modestly retire at once from the office or from the race, and conserve the energy which will inevitably be expended by a progressive citizenship in consigning him, together with his doubting inconsistencies, to the political junkpile and to the educational cemetery. A moderate amount of professional pride will deter any self-respecting teacher from owing his election to the office of county superintendent to embarrassing compromises and to political dickerings with the anti-school tax citizenship of his county.

PHASES OF THE SUBJECT

In general, I wish to discuss (1) the progress of local taxa-

tion in Texas, making a few comparisons with other states; (2) the means which a county superintendent may employ in conducting campaigns for local taxation, and (3) to show incidentally what I believe to be the duty of the county superintendent respecting this question.

FINANCIAL SUPPORT OF SCHOOLS IN THE UNITED STATES

A study of special tax movements justifies a brief consideration of the progress that has been made by the nation in recent years. According to the partial report for 1911 of the Commissioner of Education, the following figures indicate the marvelous increase of financial support to the common public schools during the past decade:

Value of school property in 1900.....	\$550,531,217
Value of school property in 1909.....	967,775,587
Derived from state taxation, 1900.....	37,281,256
Derived from state taxation, 1909.....	63,247,354
Derived from local taxation, 1900.....	149,486,845
Derived from local taxation, 1909.....	288,642,500

Thus it is shown that the value of public school property in the past decade increased 75 per cent, and that the income of public schools increased more than 83 per cent. Special attention is directed to the fact that the income derived from local taxation in 1909 was 90 per cent more than the income derived from this source in 1900.

COMPARISON OF FIFTEEN LEADING STATES

As will later be shown, Texas is making remarkable strides. However, she is still far from the top. The following table is a comparison of Texas with fourteen other leading states with respect (a) to the per cent of funds derived from local taxation and (b) to the expenditure per pupil based on the average daily attendance, the figures being for the school year 1908-09, which are the latest figures available on this subject:

State—	Per cent of funds derived from local taxation.	Expenditure per pupil on average daily attendance.
Average U. S.....	71.5	\$31.65
New Hampshire	85.0	32.45
Massachusetts	96.0	44.49
New York	85.0	48.39
New Jersey	66.0	51.03
Louisiana	61.0	21.10
Oklahoma	75.0	8.67
Nebraska	76.0	37.63
Indiana	73.0	31.53
Illinois	75.0	42.87
Minnesota	60.0	38.71
California	59.0	59.01
Oregon	80.0	38.51
Washington	60.0	56.99
Ohio	83.0	38.75
Texas	33.0	18.50

Of the fifteen states compared, Massachusetts ranks first in per cent of funds derived from local taxation, New York and New Hampshire being in contest for second place, while Texas is last, being less than one-half the average in all the states of the Union. In expenditure per pupil on average daily attendance California ranks first, Washington second, New Jersey, a state to which the nation sometimes goes in its search for men, holding third place, while Texas holds little more than her own in place fourteen, being a little more than 50 per cent of the average state in the Union. It is perhaps fair to say that no comparison is here made of Texas with respect to area or with respect to proximity to Old Mexico, in either of which cases Texas excels all the other states considered.

PROGRESS OF LOCAL TAXATION IN TEXAS

While we stand low in the list, it would be an unfair discussion and a reflection on the state's intelligent citizenship to fail to observe the remarkable strides that have been made in our

state within recent years. All our people needed was information as to our standing. It all began about five years ago, when a few strong teachers conducted the most vigorous and most far-reaching educational campaign ever conducted, perhaps, in a modern state, resulting in the overwhelming adoption of an amendment in 1908, which has made possible the establishment of good schools in the country. The past four years have witnessed a marvelous growth in the educational sentiment of rural communities. Prior to that time very few common-school districts levied a special school tax and practically none had issued bonds for the construction of school houses.

The reports of the State Department of Education for the year 1910-11, which are the latest approved statistics available, show that there are 8053 common school districts, maintaining 9043 white schools and 1979 negro schools. Of this number of districts, 4449, 55 per cent, levied and collected a special tax for the year. This is an increase of 5 per cent over the report for the previous year. The records further show for the school year 1910-11 that 327 common school districts issued bonds aggregating \$654,596 for the construction of sanitary school houses for the country children.

Several counties levy a local tax in every district, while many other counties have been aroused from several generations of educational slumber by the leadership of progressive county superintendents. I wish to say here that in my opinion more has been done in the last five years by county superintendents than would have been done by ex-officio county superintendents under the old regime from that time till the Judgment Day. In the effort to construct good country school-houses by the issuance of bonds during the year 1910-11 the following counties deserve special commendation:

Harris County, the banner county, in ten bond issues	
spent	\$157,750
Hidalgo County in five issues.....	53,000
Hopkins County in six issues.....	58,000
Jefferson County in three issues.....	52,000
Jones County in nine issues.....	14,000
Andrews County in three issues.....	12,225

Armstrong County in four issues.....	\$ 9,000
Palmer County in three issues.....	25,000
Rusk County in six issues.....	53,000
Tarrant County in six issues.....	32,000
Wheeler County in seven issues.....	12,160
Wood County in fourteen issues.....	16,900

In eighty counties responding to communications on this subject there is a total of 538 common school districts reported as levying more than a 20-cent tax, the old constitutional limit, while the same counties report 127 districts as levying the maximum tax of 50 cents. Only thirteen counties reported no districts levying more than 20 cents. In his address before the State Teachers' Association at Waco, the State Superintendent has shown that the funds raised by local taxation in the entire State increased from \$2,197,590 in 1905 to \$7,103,735 in 1910, a gain of 223 per cent in five years. For the same years, including the local tax collected to provide for the interest and sinking fund of outstanding bonds, the records of the Department of Education show that the special tax of the common school districts increased from \$479,872 to \$1,712,282, a gain of 357 per cent in five years.

CAMPAIGNS FOR LOCAL TAXATION

I shall now pass to a brief discussion of the means of conducting educational campaigns in special tax elections. I assume it to be a self-evident truth that back of all school progress there must be a healthy and enlightened public sentiment, that a school can not rise permanently above the quality and character of citizenship in which it is maintained. It should, therefore, be understood that it is not the object of a campaign for educational purposes to hoodwink the people or to hide behind any infirmities or prejudices which the people may possess; on the other hand, the right kind of campaign, rightly, honestly and conscientiously conducted, will leave the people the beneficiaries, giving them an ardent desire to contribute to good government by and through the maintenance of liberal educational advantages.

Considering the general effect upon the permanent intelligence of a community, the acquisition of funds by the popular vote of local taxpayers is one of the most desirable means of raising school revenue, having a wholesome effect which comprehends all phases of social and civic activity. As in other matters, the independent, free-thinking element of a community's population is the determining factor in school matters. The local pride of this element will determine whether we shall cling exclusively to time-honored ideals without regard to their present application, or give adequate trial to new and progressive demands. Whatever may be the advantages or virtues in the other modes of procuring school revenues, the acquisition of funds by local pride and effort is one of the wise provisions of the law.

But what are some of the specific ways in which this question may be intelligently and forcibly presented? The following suggestions are offered, no attempt being made to arrange them in order of their importance:

(1) The publication for free distribution of a school annual, containing the general progress and needs of the schools in the county, together with statistical information with respect to the name and number of each school, the special tax levied in each district, the number of teachers employed, the amount of bonds issued, the classification given each by the county board, the enrollment, census enumeration and the average daily attendance, the per capita wealth, the per capita special tax, the special tax and average per capita wealth per child of school age, appropriate comparisons of a few schools with other schools of the county and of all schools with similar schools in the state or in other counties, special mention of commendable features peculiar to the county, and such other information as may appear necessary. A book of this kind should be interspersed with school pictures, and should contain such reading matter as will insure its preservation. If necessary the expense may be borne by the advertisements. A neat, attractive publication will not only indicate the efficiency of the county superintendent, but it will also be a powerful agency for improvement of school sentiment.

(2) An educational chart of the county, showing graphic illus-

trations of the most important facts of the several districts with respect to local taxation is often a more forcible means of presenting the issue than logic or eloquence. The tables and graphic comparisons published recently by the Hogg Organization furnish a good example. A half dozen, painted on canvas, one to be hung in the office of the county superintendent, one to be carried from place to place by the county superintendent for making illustrations, the others to be exhibited in selected places, render invaluable aid to the cause of education.

(3) Almost invariably the county newspapers stand unselfishly for the promotion of education. They gladly offer their columns for the free and unlimited discussion of educational topics. An educational column, edited by the county superintendent and such assistants as he may need, and published in the weekly county newspapers, will make interesting reading for a large per cent of the intelligent country people. The effectiveness of this way of reaching the people can be better appreciated when we recall that all people have a tendency to believe what they see and read in print.

(4) In the organization and prosecution of a general educational campaign for the schools of the county by the county superintendent and other friends of education, the following means deserve special mention: A special education day to be observed by all schools in the county; special addresses by competent speakers at all school entertainments; exhibits of school work in the office of the county superintendent, at county fairs, etc.; specially prepared sermons by local ministers and pastors; appropriate discussions in local institutes for the improvement of school interest and school co-operation; carefully prepared programs for debating and literary societies; co-operation of parents' clubs, farmers' unions, civic and educational organizations; organization of county trustees, inducement of candidates, from the highest to the lowest, to express their sympathy with education in all public addresses; public and private utterances of the county superintendent of his unequivocal belief in local taxation; urgent solicitation of the young men, especially those who vote, to become actively interested in good schools; and, I may say, such other opportunities as may arise in the local conditions of the county.

(5) Concentrate on a few available places at a time, bringing to bear all means to make the issue successful. Remember that it is better to do much in a few districts, thereby making the outcome successful, than to do little in many districts, resulting in failure. Get some of the leading citizens to take the lead in the movement. Suppose a few cases and give a few calculations to show the amount of tax which individuals worth given values of property will have to pay if the proposed issue carries: for instance, the owner of \$5000 worth of property would ordinarily render for taxation about \$2500. A yearly tax of 20 cents on the \$100 valuation would be only \$5. What citizen worth \$5000, who has a pride in the school of his community, could with self-respect decline to make this small annual contribution to the education of his children and the children of his community? Similarly make calculations that would likely include other property owners. Concrete illustrations, showing definitely what a man will have to pay, often win, when no amount of abstract argument will avail anything, whatever.

It is needless for me to say that the effective leadership of a genuinely competent county superintendent in organizing and directing all the educational forces is the most essential factor mentioned. I trust also that I have left the impression that the county superintendent who refrains from active, discreet service in an endeavor for increased local taxation, is a political coward, an educational heretic, and a public nuisance.

Already the progressive spirit of the age is spreading with irresistible force. Even in Texas the death knell is being sounded by a sovereign citizenship against the reign of ignorance and its accompaniment of vice. The happiness of the people, the preservation of their liberties, the perpetuity of government, are dependent solely upon the education of the masses through an efficient system of public education, maintained largely through the means of local taxation; and, in response to the demands of good citizenship, as self-respecting teachers, it is your duty and mine to see to it that the issue is fairly, properly, and vigorously presented in the name of the country children of Texas.

THE RURAL HIGH SCHOOL AS A SOCIAL CENTER

BY N. J. CLANCY, OF THE STATE DEPARTMENT OF EDUCATION,
AUSTIN, TEXAS

Thus far the school has not held its rightful place in the affections of its friends—the patrons. Too much has been left to the teachers and school board. Those who furnished the children have paid, in too many instances, very little attention to the real work in the school-room. I recall the time when patrons would visit the schools only on special occasions, such as concerts, Friday afternoon declaiming by the school children, and occasionally a spelling bee. Even such short visits so far between were of considerable value to the schools. Children are almost always glad to see their parents and friends come to pay them a visit. Teachers are more nearly at their best on such occasions. Some years ago I taught in a public school having about five hundred children in attendance, and, when I began to invite the patrons and friends to visit the school, a lady patron said she did not know that the people were wanted about the school building during the time the school was in session. There are perhaps many people who so think now. Where does the fault lie? It may be due to a lack of tact on the part of the teaching force to put the matter in its proper light before the community.

There are many who readily recall the time when the school building was locked more than half the year, and thereby the public was deprived of the use of the building for all purposes except that of actual teaching. The things taught in the school had little bearing on what the children would do to earn their livelihood, and therefore, the patrons saw very little in the school for anybody except the child, and the child saw very little in what he studied except for its own sake. Since industrial education began to claim some right to a division of both time, and thoughtful attention, we are beginning to see the school in new relations to the life of the community.

By a careful study of the enrollment and attendance of children in our public and even our private schools we are forced to

the conclusion that something must be radically wrong. In 1909-10 only about sixty-two out of each one hundred children enrolled in the schools were in actual average daily attendance, while about thirty-eight were absent every day during the time the schools were kept open for the children. It can not be maintained that bad roads are entirely responsible for this lack of attendance. When due allowance is made for bad roads, poor school buildings, lack of equipment, and also the possibility of an occasional poor teacher, the number of absences would barely be reduced to forty out of each one hundred children enumerated by the census trustee. The child, therefore, has a school that at best reaches only 60 per cent of efficiency. How to use that 40 per cent of waste is a serious problem. If the school approaches no more nearly to efficiency than 60 per cent, it would, in a business sense, have very little right to exist. It is true that 100 per cent of attendance does not necessarily mean 100 per cent of efficiency; yet few, if any, will deny the fact that attendance makes possible much that materially belongs to the child as his rightful possession. The influence of prompt attendance on the school is perhaps one of the most helpful agencies the school has. In the rural districts the attendance is poorer than it is in the towns, villages and cities, due no doubt to a lack of enthusiasm growing out of the social feature of the schools in the more thickly populated centers.

The fact that our schools have done so little for the children in preparing them or even aiding them in selecting the work for which they are best adapted, is measurably responsible, in my opinion, for the little interest taken by parents and guardians. The lack of means to support and equip rural high schools has made it well nigh impossible to have them, and as a result the rural districts have lost in population and in the production of wealth. It has often happened that the rural districts would lose the land owner, and the land tenant would take his place. The schools at present in the rural districts are now beginning to attract the attention of the more thoughtful citizens who seem to be ready to take advantage of the opportunity to establish, equip and maintain high schools in which such subjects as will be of great practical value to the children, both in the selection of their life-work and in making them

better qualified to compete with the world of workmen among whom they must move and among whom they must earn their daily bread. But the schools must offer, and indeed they are now offering, courses of instruction to parents and to those also who have grown to manhood and womanhood with little or no equipment for their life-work. The schools must stress such occupations as the communities in which they are established offer. If agriculture is the chief business of the people in a given district the school must have a department of agriculture presided over by teachers who are prepared to give such instruction as will enable the boys to produce the best crops at the least cost and with the least amount of labor. Instruction in agriculture should be such as to make intensive farming not only profitable, but also tolerable. Many a boy has failed to see the beauty in farm work solely because it was almost purely a grind from 4 o'clock in the morning until it became too dark for him to see how to do his task. He could not understand the "independence of the farmer," as compared with the merchant, and with little persuasion he was ready for a change.

The school now becomes the center of interest to the farm workers, and such clubs as will best emphasize the practical value of the principles of agriculture are being organized. Suppose, for example, that a high school is established in a district adapted to the "diversification" of crops, it is the duty of the school to offer such courses as will be of practical value to those engaged in the production of the different kinds of crops. Fruit growing, trucking, etc., must have their share of thoughtful attention in order that those thus engaged may not only produce, but that they may conserve what they have produced. The school now becomes a center of intelligent industry, and thereby touches life at its center instead of its outer rim or circumference. The school building will not remain locked one-third or one-half of the year; but it will be a place of common interest—a center of intelligence—a study center. The building must contain an auditorium, library or reading room, and a basement.

District No. 14 in a county known as A issues bonds to the extent of its authority, say \$25,000, not to build a barn, but to build a school-house. The first thing to be determined is what

kind of school building, size, etc., and number of rooms.

The district has a scholastic population of 300, and, therefore, a population of approximately fifteen hundred, composed of 150 homes. The equipment of the building must be such as to render it the most usable building in the district, and, therefore, it is easy to see that not more than 80 per cent or 90 per cent, perhaps somewhat less than either of these rates, should be expended in the house alone.

The library, reading room, and auditorium should be of such sizes as to accommodate the largest number of people that could be induced to take advantage of the opportunities to be offered. Of course a careful study should be made of the local conditions in this district in order to determine the best and most economical expenditure of the \$25,000 which is to be for the use and benefit of every man, woman, and child in the district. Manual training and domestic science must be provided for in order that the school shall be helpful to the home life in the district. The one hundred and fifty homes in this district can easily and cheaply be supplied with all the books, magazines, papers, and periodicals they can possibly have time or inclination to use to the best advantage. A small fee raised by common consent from each of the homes will be ample to meet current expenses in providing books, etc., sufficient for them. Lectures may be provided for teaching such subjects or parts of subjects as will be of most value to the district homes. "Box suppers" or such other means as will best suit the people in the district may be used as a means to some desirable end which would require an outlay of funds. Intelligent leadership in this new movement will be found to be absolutely indispensable, for the reason that it does not require much time to tire people of one kind of entertainment or amusement. Nor must it be lost sight of that every kind of entertainment or amusement must have educative value.

A social center should not be a center of foolishness. Every meeting or gathering should have some definite aim well planned and well executed, if the district is to have the largest benefits accruing therefrom. A judicious use of the different kinds of clubs will be of great practical value in aiding the district to realize its aim. All agencies employed should have some in-

trinsic worth, in order that the people may develop morally, socially, intellectually, and spiritually.

As a conclusion to this paper, I wish to read two letters, which were written by Miss Amanda Stoltzfus, the principal of a rural school in Bee County, Texas, and which furnish concrete evidence of the desirability of utilizing the rural school as a social center. The first letter reads as follows:

"From the first mass meeting when our people met to consider the building of a good school, to voting the highest tax for school purposes and bonding the district to further insure the success of the project, our people have been a unit. They have had complete confidence in their faculty, and have responded to every call which pertained to aiding the school in any way. It is to this progressive spirit that the success of the Tuleta Rural High School should primarily be attributed.

"We have tried to interest all ages and classes in our school plant. The school farm of fifteen acres is being cultivated by the school and its patrons. It is divided into plats which will be used as seed-breeding areas, and a means of some income. Cotton, broom-corn, maize, and watermelons will be our chief crops. We are also making alfalfa experiments. We subsoiled two acres with dynamite, and are looking forward with interest to comparative results.

"In this connection, we have organized a farmers' club, which will co-operate with the school in seed experimentation. Our aim is to breed pure seed to suit this climate.

"The mothers meet regularly in the school kitchen, where the instructor in domestic science gives a demonstration in cookery, sewing, or laundry. Parallel with these lectures are discussions in sanitation, child welfare, etc. The social feature is the chief good. The ladies have a pleasant visit with one another, learn to know one another better, meet the teachers of their children, and thus plan campaigns for winning and keeping the boy or girl who otherwise might be misunderstood and perhaps leave school. The mothers are also very much interested in the school society, which meets alternate Friday afternoons. Upon these occasions the programs consist of debates, stories, compositions, etc.

"There is a class of young people beyond school age who are

getting up a drama for the benefit of the school. They will continue their meetings after this entertainment.

"One of the mothers is studying and reciting each day the fourth-grade work. She comes after her little son returns from school, when he takes care of the two younger children while his mother is in school.

"Both mothers and fathers are very much interested in the library. One farmer has read almost all the books, and we have about two hundred volumes. A number of people outside of school are acquiring the reading habit, as are many of the school children, who previously knew nothing of literature outside of Sunday school lessons and school readers.

"We have many social affairs combined with some intellectual features, such as box supper and lecture; farmers' institute and basket dinner; meeting for cleaning up the school grounds; special occasions such as Hallowe'en party, Christmas music with stereopticon, showing masterpieces of life of Christ, Valentine party, review of history in form of games, judge parties, etc. A Christmas bazaar in which both parents and children participated brought in funds for table linen for the domestic science class.

"The school-mothers, teachers, and older girls furnished delicious lunch for the visitors at the 'Dynamite Demonstration.' Many mothers furnished pies for this occasion.

"The boys raised money for the flag staff and the fathers helped to put it up.

"The girls bring from home the materials for their work in cooking and sewing classes. The boys collect store boxes and other scraps of lumber, with which they have been able to make many useful and really beautiful projects for the home and school. They made their own work benches, did part of the carpentry upon the shop, test the farmers' milk, keep account of weight of milk given by individual cows at home, trim and plant trees on the school ground, made the cold frames for the early plants, the frame for the grindstone, hills for melons, etc., etc.

"During the summer a union Sunday school is held in the schoolhouse, and the library is open each Saturday afternoon. A dozen of the best farm papers are on the reading table in the agricultural laboratory, as are files of the farmers' bulletins.

"Basketball and baseball are the favorite team games played upon the school ground.

"The school children join the 'town' people in cleaning and beautifying our town park.

"Our closing exercises are all-day affairs. People come for miles around, listen to the pupils' program in the morning, spread a magnificent basket dinner where everybody eats all he wishes and the baskets return home with quantities of fragments. The afternoon is given to some lecturer, while in the evening is the literary society entertainment. Here, the people who cannot get into the house have been known to stand on ladders on the outside.

"We want to secure lecture courses for each month. We generally secure the services of a number of prominent agriculture men during the year, and only regret our distance from the State University, whence we feel we could receive so much inspiration by way of talks from the professors of different departments.

"This is but our second term of school, and we feel that our beginning has been very encouraging. Our seating capacity is being crowded, and more farmers are having their children transferred to our district, which we hope will be enlarged in the near future. At present we are the smallest district in Bee County."

Here is the second letter:

"The latest features of our work is the Young Ladies' Sewing Club, which will meet alternate Friday afternoons, and plans for a series of excursions by the classes in agriculture, the first of which was made this week when in company with two teachers they all went to the Beeville Experiment Station. The next trip will be to an old-fashioned cattle ranch.

"The majority of the people here are from other sections of the country, many from Illinois and Iowa, some from Tennessee and other Southern states. After having lived here for several years with poor or no school advantages, they feel very keenly the need of better educational advantages. Being a very practical body of citizens, the idea of departments of agriculture and courses of handwork for their children truly appealed to them and they voted for a good rural high school. They learned

that the State of Texas was willing to lend a hand, so they applied for and received the appropriation. They donated twenty acres of fine land for a school farm. This borders on the town site.

"To succeed in a work of this kind, the teacher in charge must be enthusiastic, tactful, willing to make sacrifices, and be strong enough to endure hard work—but, oh, such interesting work! He can fairly see things grow, and this pleasure is a large share of his compensation.

"We are a very quiet community. The school with its adjuncts is the most attractive institution in the place.

"If we, perhaps the weakest district in Southwest Texas, so far as income from public money goes, can build a successful school, there is no reason why such schools could not be built wherever needed. There must first be a need and a willingness to sacrifice if necessary in any way, to accomplish it. Public sentiment must first be awakened. Could this not be accomplished largely by 'live wires' from the State University?

"When the people feel the need of a good school, they will have it.

"Our community has been carved out of one of the great ranches which compose 85 per cent of Bee County. Five years ago this site was all in brush and cactus. To-day we have two mercantile houses, a postoffice, a blacksmith shop and a neat little depot at our railroad station, where all the trains on the 'Sap' will stop when signaled. We have a flourishing broom factory and good prospects of getting a cotton gin next year. We have one hotel in operation, with another, more pretentious, in process of building, and located in the town park which is under the supervision of the ladies of the *Tuleta Civic League*. One church building is located in our town, with promise of another.

"This term we have enrolled one hundred forty pupils. with an average attendance of about eighty-five or ninety.

"I plan the program and the course of study, which consists of two courses—agricultural, and English classical. I was so anxious to introduce a class in German, but space forbade this term. We have enrolled fifteen high-school pupils, forty intermediate, and the remaining are below the fifth grade.

"The teacher of domestic science also teaches physiology, while

the teacher in charge of agriculture also teaches the kindred subjects of geography, nature study, and also has charge of the wood shop.

"We have some form of handwork in each grade. I believe that this is necessary to secure expression 'without which there is no impression.'

"As to my letters, they were not written with a view of publishing them. But if you think their form and contents justify your making such use of them, I have no objection when I consider they might help some one else work for good rural schools."

SIX-YEAR TERMS FOR SCHOOL BOARDS AND PERMANENT SUPPORT FOR HIGHER INSTITUTIONS

BY

S. M. N. MARRS, SUPERINTENDENT OF CITY SCHOOLS, TERRELL,
TEXAS

The Thirty-second Legislature submitted the following amendment to our State Constitution to be voted upon at the next general election in November:

Amend Art. XVI by adding 30a.

"The Legislature may provide by law that the members of the Board of Regents of the State University and Boards of Trustees or managers of the educational, eleemosynary and penal institutions of the state, and such boards as have been, or may hereafter be established by law, may hold their respective offices for a term of six years, one-third of the members of such boards to be elected or appointed every two years in such manner as the Legislature may determine; vacancies in such offices to be filled as may be provided by law, and the Legislature may enact suitable laws to give effect to this section."

The adoption of this amendment will be a long step forward in the progress of the school system of the state, besides tending to remove from political influences the eleemosynary and penal institutions. Without discussing the desirability of changing the method of procuring the boards of control and the conse-

quent political influences which have been so detrimental to the successful management and control of the eleemosynary and penal institutions, which are familiar to those of us who have given any thought to such matters, I shall undertake to review the conditions as applied to educational institutions and show the necessity of incorporating in our Constitution some definite recognition of the importance of the office by authorizing a longer tenure than two years.

An investigation of the history of public education in the United States discloses the interesting fact that in the enactment of laws for governing boards, provision was made uniformly for a long tenure of office. The earliest school board of which we have any record was that of the public school of Dorchester, Massachusetts, in 1645, two hundred thirty-seven years ago, which provided for "three able and sufficient men of the plantation to be chosen to be wardens or overseers of the school, who shall have charge, oversight, and ordering thereof, and of all things concerning the same in such a manner as is hereafter expressed, and shall continue in this office and place *for the term of their lives* respectively, unless by reason of any of them removing his habitation out of the town or for any other weighty reason." This board of trustees was elected by the people. For this extreme position of life tenure of office the term gradually became restricted to five, six, seven, or nine years. The idea has always prevailed among those who have given serious thought to the problem, that excessive care should be taken in the selection of these officials; that special qualifications should be demanded which would fit them to perform the duties required, and sufficient time should be given them to become familiar with the duties of the office and to carry to a successful termination any policy that might be adopted.

While the various constitutions of Texas have always been careful to limit the length of term of state officials and thus to require frequent elections, from 1854 until 1900 no attempt was made to give the various members of such boards as are mentioned in this amendment, the status of officers within the meaning of the Constitution and a consequent limitation of a two-year tenure. On the contrary, there is abundant legislative and exec-

utive construction which justified the assumption that the framers of the Constitution did not intend this limitation to apply to such officials.

In 1879 the Legislature enacted a law providing for boards of trustees for the schools of independent districts to serve for four years, and this act was approved by Hon. O. M. Roberts, one of the best judges of constitutional law that has ever graced the supreme bench. Again in 1881 the law providing for a Board of Regents for the State University to serve a term of eight years, besides receiving the approval of Governor Roberts, had also the special sanction and approval of the late Hon. A. W. Terrell.

In 1883, when Hon. John Ireland, another eminent jurist, was Governor, a law was enacted giving permission to such cities as had assumed control of their schools and were exercising such control, the right to appoint a board of six school trustees whose term should be three years, one-third to be appointed each year.

Four-year terms were given by special charters to the boards of trustees in Fort Worth and Paris in 1889, and Austin in 1891. From 1871 till 1873 no oath of office was required of school trustees. In one of the messages sent to the Legislature by Gov. C. A. Culberson, referring to the Board of Regents of the University, he stated distinctly that in his opinion they were not officers within the meaning of the Constitution.

In 1899 the Legislature attempted to harmonize all of the statutes governing the boards of trustees of independent school districts and provided a four-year term of office. The constitutionality of this act, as to tenure of office, was attacked in the case of *Kimbrough vs. Barnett* of Houston (93 Texas, p. 301), and the Supreme Court in 1900 held the act unconstitutional. As soon thereafter as practicable the Legislature enacted the present law limiting the term of office of school trustees in all school districts to two years, and also recognized the same term of office for the boards of control of all eleemosynary and penal institutions, as well as of the higher institutions of learning.

It is obvious that such limitations upon the term of office is inimical to the best interests of all such institutions for the following reasons:

1. The public loses the services of experienced men when they

become acquainted with the duties of the office, either by the fortune of state politics or local conditions. The late Hon. A. B. Blodgett of Syracuse, New York, said: "It has taken over one hundred years to bring American school boards to their present state of culture, and few have graduated *summa cum laude*. It takes at least two years to educate the average board member."

The latest authoritative expression on this subject is found in the Pennsylvania School Code lately adopted, which provides for a term of six years. In an excellent discussion of this feature of the code is found the expression with which we will all agree: "Five minutes is too long a term for an incompetent man."

2. A short term gives opportunity for frequent disturbances in the local management. One city in this state has suffered materially in this way and in this particular city the charter provides that the terms of all members of the school board shall expire the same year. This gives an opportunity for a complete revolution.

3. A short term prevents the members of the board from planning and carrying out a policy which sometimes requires several years to execute.

4. A short term tends to inefficiency rather than efficiency on the part of members who are sometimes prone to leave the performance of important duties to their successors in office.

When we turn to the experience of other States we find a three-year term for such officials in California, Colorado, Illinois, Kansas, West Virginia, Ohio, and Arkansas. The regents of the Ohio State University serve seven years. A determined effort should be made this year to put Texas in line with progressive educational states.

The State Teachers' Association and The Conference for Education should unite in requesting the next Legislature to provide for the permanent support of our higher institutions of learning by a fixed rate of taxation. This would obviate the necessity for lobbying for appropriations and would enable the boards of regents to plan for the future growth of the institutions independent of the fickleness of legislators. It would relieve the members of the boards from an unpleasant duty, for many members of the legislature do not realize that they should have as much interest in the successful management of these institutions

as do the members of the boards asking for appropriations. They sometimes act and vote as if they thought the members of the board had a pecuniary or undue proprietary interest in the institution which they represent. The members of the Legislature are not so well acquainted with the needs of the various institutions, and, so long as these institutions are dependent upon budget appropriations, their income will not keep pace with the growth and prosperity of the state.

OUTLINES OF ROUND TABLE DISCUSSIONS UPON THE COUNTY INSTITUTE AND THE FURTHER DE- VELOPMENT OF COUNTY SUPERVISION

BY

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CANYON, TEXAS

The County Institute.

I.—Planning for its Work.

Theses:

1. *The County Superintendent should plan the work of the institute.*

The institute is the county superintendent's opportunity to indoctrinate his teachers in any matters that he may think worth while. All general effective movements looking toward school improvement must reach the different communities through the county superintendent. He must look over the field and see what improvements are necessary and possible, and then enlist the sympathies and assistance of his teachers in these improvements. For instance, there may be a need of better houses, improved grounds, better libraries or supplies. There is strength in cooperation.

2. *The County Superintendent should determine what work in the nature of improving instruction in the school-room should be undertaken.*

He should determine whether he will cover the whole public school curriculum or whether he will confine his efforts to cer-

tain parts of the curriculum in which he has observed weaknesses in his teachers, or whether he will make a certain subject his "leader" for a given institute. In other words, the county superintendent should determine *what* he will attempt, and *why* he will do that and not something else, and who among his teachers are most efficient to help in the respective departments.

3. *His plans should include a survey of the co-operative agencies and their purposes.*

Among these which should be considered and explained might be mentioned: The Hogg Movement, The Conference for Education in Texas, The Conference for Education in the South, The General Education Board, The Southern Board, The Country Life Commission.

4. *The value of clubs that may be correlated with the school, should be considered.*

What is being done and what can be done with and through mothers' clubs, womens' clubs, boys' clubs, girls' clubs, library clubs, etc. Such information rich and fresh should be given the teachers and plans made for organization and progress of such of these as circumstances in each county justify or demand.

5. *There is no other piece of work of all the great work the county superintendent may do that requires a broader outlook and more intensive thinking than this one, the planning of the institute.*

The plan should allow liberally for the instruction which the superintendent may wish to give his teachers about making reports and providing for the full discussion of the details of organization and procedure. Conferences, if this term be preferred, should be held daily.

II.—The Successful Conduct of the Work.

Theses:

1. *County institutes are dull and dreaded by the teachers in attendance if the County Superintendent is ignorant of what should be done or if stupidity and ignorance characterize the work which is done.*

These terms are not too strong to apply to some of the work done in some of our institutes. If the county superintendent be well informed and have his heart in the work, the institute

can not be a dull, dead place, but on the contrary every day is packed with items of vital interest.

2. *Every man or woman on the program should know the subject in hand and know the needs of the local teachers.*

There is but one test to apply in putting people on the program of the institute and that is the test of preparation or ability to do the work desired. The county superintendent predestines his institute to dullness and to failure, partial or complete, when he allows politics, sectarianism, or geographical location in the county to influence the selection of his assistants. All these may be interesting incidents, but none nor all of them is a satisfactory substitute for ability to the work desired.

3. *The whole program should be a vitalized unity, and every division and subdivision should become a point of illumination while it is under consideration.*

III. The Further Development of the Office of County Superintendent.

Theses:

1. The office should be put on a professional basis and taken out of county politics. A long step would be taken in this direction if the election could be placed in the hands of the county board of education.

2. The office in the larger counties should be provided with sufficient clerical help to allow the county superintendent to devote his time to the professional duties of the office.

3. The required number of scholastics should be reduced to two thousand in each county, thus establishing by law expert supervision for every county having two thousand children.

4. Counties having fewer than the required number of children should be grouped into supervision districts and a professional school man put in charge of each district, with sufficient clerical assistance in each county to give every child in Texas the help that should come from the intelligent direction of his studies.

5. There should be a minimum salary; but there should not be a maximum salary for the county superintendent. The experience of many states has demonstrated the wisdom of this thesis.

OUTLINE OF AN ADDRESS UPON TESTING THE
TEACHER'S EFFICIENCY AS A MANAGER AND
INSTRUCTOR

BY

P. W. HORN, SUPERINTENDENT OF CITY SCHOOLS, HOUSTON,
TEXAS

Many different standards are used in judging the teacher's efficiency—some false, some true.

A few things can be judged by the "snap shot" method: that is, by observation on the teacher's work at a given time. More things, however, can be judged only by comparison of progress. The true measure of the teacher's efficiency can be found only by measuring the difference between the educational situation when she begins and that when she closes.

A few things that can be observed at a single visit to the room:

1. Physical conditions in the room. Whether clean or dirty, light or dark, well ventilated or otherwise, etc.
2. The degree of attention given by the class reciting.
3. The condition of the class not in recitation. Are they at work?

Some things that can be judged only by comparison and by progress made:

1. Condition of building. Is it better or worse than that with which the teacher began? To leave a good building where you found a poor one is a marked tribute to the teacher's efficiency.
2. Condition of grounds. Does she leave the grounds more beautiful than she found them?
3. Condition of books of pupils. Books kept clean and in good repair by the pupils, speak well for the teacher.
4. Condition of records. Will the next teacher have more help or less help from records than you had?
5. Use of buildings. Does the community use the school-house more than it formerly did or less?
6. Condition and use of homes. Does the work of the school

have any effect upon the homes of the district? If so, is it for better or for worse?

7. What about the general attitude of the people toward the school? Are they more interested than they used to be or less?

8. What about the financial report? Do the people spend more money on their schools this year than last? If so, it speaks well for the teacher's efficiency.

9. What about the attitude of the children toward their work? Are they more interested than formerly or less so?

10. Do the pupils feel an increasing pride in their work? Do they take honest pride in showing what they have done?

11. Do the pupils take more pains with their work?

12. Have they made a perceptible growth in power during the term? Can you tell that they can do things now that they could not do when you began to teach them?

13. Are they more interested in the right kind of things, both in school and out of school than they used to be?

14. Is the school having an increasing effect upon the industries of the people of the community?

To judge the efficiency of a teacher properly, all these things must be taken into consideration. To do so is no easy task.

THE COUNTY SUPERINTENDENT AS A PROGRESSIVE LEADER OF PUBLIC OPINION.

(Outline of an address delivered by P. W. Horn, July 19, 1912, during Rural School Week at the University of Texas.)

The county superintendent should be the chief factor in shaping the educational policy of a county.

The educational policy should be based upon two things: the educational sentiment of the county and the material wealth of the county.

The county superintendent should see to it that a good educational policy in his county is crystallized into a good educational program. This is a crucial point, where many good superintendents break down.

The following characteristics should be observed in formulating the educational program of the county:

1. It should be founded upon investigation. Before you de-

eide what is to be done, be sure that you know what needs to be done.

2. It should go slow. Educational revolutions sometimes revolve backward. Evolution is better and safer.

3. It should deal with first things first. If all the needs cannot be met at one time, meet them in the order of their importance.

4. The first step is to make sentiment. A program made out by one man alone is not likely to succeed. What the people want they are likely to get.

5. The next step is to secure publicity. Reports, bulletins, daily and weekly papers, public gatherings, etc., should all be used to secure publicity—not for the superintendent himself, but for the schools.

6. The next step is to organize. When sentiment is made and publicity secured, the details must be worked out and definite steps taken for securing the desired ends.

7. The program should be far-sighted. The needs of to-day should be met first, but the needs for next year and for succeeding years should not be overlooked.

8. The program should be continuous and connected. One thing should lead to another.

9. The program should be reasonable. Nothing should be attempted beyond the means of the people to carry it out.

10. To carry out any considerable educational program requires time and safe tenure of office. The second-term idea should not apply. The county superintendency is no more a political office than is the city superintendency.

RESOLUTIONS

At a meeting of the superintendents and teachers in attendance upon Rural School Educational Week in 1912, Superintendent W. E. Taylor, of the Gonzales City Schools, and County Superintendents William Eilers, of Lavaca County; Oswald Garrett, of Wharton County; Andrew J. Holmes, of Panola County, and J. J. McCook, of Denton County, were appointed a Committee on Resolutions. At a subsequent meeting the com-

mittee's report was unanimously adopted. The last two paragraphs of that report read as follows:

"We wish to express our fullest appreciation of the work of the Rural School Conference just closing. Its value to the state will be inestimable. In originating this work The University of Texas could not have more effectively inaugurated a labor of greater benefit to our state. If future conferences are planned, we pledge our co-operation as follows:

"1. To aid in securing the co-operation of every friend of education in Texas.

"2. That each superintendent in his coming institute present the work of this Rural School Conference to his teachers.

"3. That we request the superintendents to make special efforts to put into practice the instructions emanating from this Conference.

"4. We desire to express our personal appreciation to the officers and instructors of The University of Texas for their interest in the public schools and especially for the skillful organization and direction of this Conference. In securing the co-operation of the Summer School Faculty, the State Department of Education, of President R. B. Cousins, and of Superintendent O. J. Kern of Illinois, and Mr. C. H. Lane, of the U. S. Department of Agriculture, there has been provided a conference, which for usefulness to our state, has probably not been excelled in the educational history of the commonwealth."

